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# Worldwide Report

EPIDEMIOLOGY

No. 253



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3 November 1981

## WORLDWIDE REPORT

## EPIDEMIOLOGY

No. 253

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INTER-AMERICAN AFFAIRS

GUYANA, BRAZIL TO COOPERATE AGAINST DISEASES

FL122109 Bridgetown CANA in English 1719 GMT 11 Oct 81

[Text] Georgetown, Guyana, 11 Oct (CANA)--Brazil and Guyana have pledged to strengthen cooperation in their fight against malaria, yellow fever and chagas (a form of sleeping sickness)--three tropical diseases relatively prevalent on the adjoining borders of the two South American republics.

The government-owned CHRONICLE newspaper said the two countries had decided, during two days of discussions in Georgetown, to exchange information to tighten surveillance. They were seen as initial steps in what is likely to lead to a comprehensive program on disease control and eradication.

Brazil was represented at the talks by Dr Marcos Antonio Soares Porto while Guyana's representative was Chief Medical Officer Dr Walter Chin.

The CHRONICLE said the two specialists met under a sanitary agreement on tropical diseases signed between Brazil and Guyana in Brasilia last June. Both countries have an interest in malaria in particular since they both shared the Roraima border, an area in which the disease was found.

Brazil and Guyana discussed plans to monitor flights between their two countries in a further effort to prevent malaria from being transmitted from one country to the other. The two specialists also discussed the possibilities of exchanging technical medical personnel and developing contacts in other areas in the medical field. On the question of chagas, the two countries have agreed to mount a serological survey on the prevalence of this disease in their territories.

CSO: 5400/2016

## AUSTRALIA

### BRIEFS

**WHOOPING COUGH THREAT**--An outbreak of whooping cough, reported in 50 people at Charleville, is being treated seriously by the State Health Department. The Health Minister, Mr Austin, said the outbreak underlined the need for all parents to ensure their children were immunised. The Charleville General Hospital medical superintendent, Dr Malcolm Scarr, said yesterday that three baby victims of the "small epidemic" had required treatment at major state hospitals. Mr Austin said two seriously ill children had been flown to Brisbane for treatment. Dr Scarr said that the whooping cough outbreak had prompted a significant number of townspeople to have their children immunised. The Health Department is carrying out tests to establish the infection which has peaked in Charleville over the last two months. Whooping cough is considered dangerous to children under 12 months. Mr Austin said it was sometimes fatal and could lead to permanent respiratory trouble. It was important that babies be immunised. The "triple antigen" injection recommended for babies offered some protection against whooping cough, diphtheria and tetanus. The Charleville outbreak included adults as well as children. Dr Scarr said that although immunisation of small children was not complete protection against whooping cough, it reduced the seriousness of any infection. [Text] [Brisbane THE COURIER-MAIL in English 18 Sep 81 p 7]

**NSW MEASLES EPIDEMIC**--NSW is in the grip of a measles epidemic and the Health Commission has advised all parents to ensure their children are immunised. The commission believes only 50 percent of children in the State are immunised. Dr Allan Crawford, the State Director of Public Health, said yesterday people did not seem to realise how serious the risks were and tended to be blasé about immunisation. The disease is highly contagious and with schools having started again this week there is a much greater risk of it spreading. Hundreds of cases have been reported in NSW but because it is not a notifiable disease, exact numbers cannot be obtained. [Excerpt] [Sydney THE SYDNEY MORNING HERALD in English 19 Sep 81 p 1]

CSO: 5400/7504

## BRIEFS

**INSTITUTE UNAWARE OF ACTION**--The Adolfo Lutz Institute is unaware of strict measures being taken on the federal level to prevent an epidemic of dengue hemorrhagic fever--with 342 cases reported in Cuba up to 9 September--from arriving in Brazil. In this regard, no official notification was directed to the institute which, through the press, is following the interest of the Ministry of Health in taking precautionary measures, according to a comment made yesterday by laboratory technician Dulce Maria de Souza. Since the country has no vaccine against this disease, the institute's department which studies viruses transmitted by arthropods (insects) has not altered its work routine, although the risk of an epidemic is not totally remote. "An epidemic of encephalitis," Dulce Maria recalls, "entered Brazil in 1975.. Before this time, we had never worried about that possibility." The *Aedes aegypti*, mosquito, which transmits dengue, also transmits urban yellow fever; it breeds in stagnant pools and forests, and its eradication is under the direct responsibility of SUCAM (Superintendency for Public Health Campaigns). To carry out a special plan aimed at intensifying the eradication of that mosquito, the Ministry of Health has requested extra-budgetary funds from the Secretariat of Planning. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 24 Sep 81 p 16] 8568

**MENINGITIS DISCOVERED IN SCHOOL**--After the discovery of two cases of meningitis--one fatal--at the El Salvador Republic Municipal School in Piedade, about 100 mothers of pupils met yesterday with Oswaldo Saba, director of the Engenho de Dentro Health Station, to demand the vaccination of their children against the disease and the distribution of the antibiotic, Menomax, which costs 600 cruzeiros for a bottle with eight tablets. The disease was discovered this week with the death of a school maid, Maris Gomes de Abreu, aged 69, and the admission of a student, Marcelo Cardoso Santos, aged 13, to Sao Sebastiao Hospital with meningococcal meningitis. Raimundo Moreira, municipal secretary of health, gave his assurance that the two cases were not connected. The school's directorate and employees refused to give any information. The director of the Engenho de Dentro Health Station excluded the possibility of an outbreak of meningococcal meningitis and stated that "soon everything will be normal." Meanwhile, at least 80 percent of the school's 900 pupils failed to show up for classes yesterday. Most of them reside in a housing complex near the school--which is at Rua Almeida Nogueira 85--where Marcello also resides. Marcelo's father, Hermes dos Santos, said he does not know if his son contracted the disease at the school. He said that the child had a high fever and was vomiting and, upon being admitted to the hospital, was diagnosed by the doctors as having meningitis. [Text] [Rio de Janeiro O GLOBO in Portuguese 25 Sep 81 p 13] 8568

MACAE HEPATITIS EPIDEMIC DENIED—Eloadir Pereira da Rocha, director of the General Department of Epidemiology and Disease Control, of the State Secretariat of Health, said yesterday that oral reports by physicians of an increase in hepatitis cases in Macae are not sufficient to establish the existence of an epidemic. The statement refers to recent reports by physicians Marcelino Carlos Pereira da Silva and Germano Ribeiro de Castro of seeing 200 hepatitis cases in Quissama, Fourth District of Macae. According to Pereira da Rocha, the written reports from physicians to the secretariat (compulsory notification) likewise do not add up to a hepatitis epidemic in Quissama. Da Rocha met day before yesterday with Cesar Augusto Sabino de Azevedo, health coordinator for the Lower Coast ["Baixadas Litoraneas"], who reported that he had already asked CEDAE to analyze the quality of the water consumed by the inhabitants of Quissama. There are no basic health infrastructures there, and the inhabitants use water from artesian wells, which could be disease foci, according to the secretariat. Technicians of the General Department of Epidemiology and Disease Control and of the State Institute of Public Health will go to Quissama today to begin an epidemiological survey of the area. Until the survey is completed, the secretariat is recommending that the residents of Quissama filter and boil their drinking water, avoid bathing in streams and lakes, and go to the local health station at the first sign of the disease (vomiting, headache and diarrhea). [Text] [Rio de Janeiro O GLOBO in Portuguese 30 Sep 81 p 13] 6362

CSO: 5400/2007

CHILE

BRIEFS

**MENINGITIS OUTBREAK--Temuco--**Eleven meningitis cases, of which two died, occurred during the month of September in this city. [Santiago Chile LA TERCERA DE LA HORA in Spanish 2 Oct 81 p 5]

**INFECTIOUS HEPATITIS, TYPHUS--**It has been reported that there is a growing occurrence of infectious hepatitis and typhus in Chile. On the one hand deaths from infectious and parasitic causes decreased from 4,096 in 1976 to 3,179 in 1980. However, the incidence of typhoid fever increased from 5,344 cases in 1970 to 6,110 cases in 1975 and 13,114 cases in 1978. [Santiago Chile EL MERCURIO in Spanish 21 Sep 81 p B1]

CSO: 5400/2011

## CAMPAIGN AGAINST DENGUE FEVER IN SANCTI SPIRITUS, HAVANA, MATANZAS DESCRIBED

Havana BOHEMIA in Spanish 28 Aug 81 pp 50-55

[Text] Sancti Spiritus

During its trip from the city of Cienfuegos to the neighboring province of Sancti Spiritus, with an area of 6,736 square km and a population of 407,000, our group of journalists, representing various mass media, made a wide variety of contacts. The provinces of Cienfuegos and Villa Clara impressed us profoundly for two reasons: first, because of the high number of reported serious cases of this dangerous disease, and second, because of the methods used to combat it efficiently.

By last Thursday, 20 August, those days and nights of unceasing struggle against the furious onslaught of the disease were already in the past, and the last hospitals we visited in Villa Clara and Cienfuegos were gradually returning to their routine activities. However, weariness and fatigue continued to be reflected in the faces of the doctors and nurses, laboratory workers and health personnel, like an ineradicable imprint of the bitter struggle against dengue fever.

We expected that the picture we would find farther on, in the next province, Sancti Spiritus, would be characterized by urgent aspects.

How surprised we were, however, when we met with the members of the provincial operational group, sponsored and directed by the party, to learn that the province of Sancti Spiritus, divided into eight municipalities, was among the regions in the country with the lowest indices of inhabitants affected by the epidemic. Later on we saw evidence of this encouraging and reviving reality in the course of a tiring pilgrimage to the health installations of its municipalities.

The lens of our photographer recorded scenes of smiling children who had recently regained their health thanks to the self-sacrificing efforts of the doctors and nurses, laboratory workers and medical students, and finally, the inestimable collaboration of other workers, not to overlook the important role played in this entire exhausting battle by our mass organizations and bodies.

We also saw hospital ward scenes where there were only two or three patients eagerly awaiting their hospital release.

"In past weeks," a young nurse told us, "this very ward was packed with patients, some of them very sick, almost on the edge of death...."

What made it possible to save these lives?

Dr Guillermo Mojena Machin, provincial public health director for Sancti Spiritus, gave us the answer to this question.

He explained to us that as soon as news of the first cases reporting in the city of Havana was received, the comrades in the provincial subdivision for health and epidemiology and the epidemiologists launched their in-depth studies, and on establishing that they were faced with hemorrhagic dengue in the country, they immediately began work designed to prevent the spread of this terrible disease in Sancti Spiritus.

[Question] When did you learn about the first cases of this disease?

Dr Mojena responded that it was about the first of June. He went on to add:

"In view of this fact, orders were given at a meeting held for the purpose on 2 June with the municipal health directors, to immediately undertake the task of applying Abate to eliminate the mosquito larvae.

"We must admit that in those days we did not have insecticides and other equipment such shoulder packs and motorized carriers for the spraying, but we did have enough Abate to undertake the task."

[Question] What personnel were available for this task?

[Answer] We had limited public health personnel but we had the immediate support of the national organizations, above all the Federation of Cuban Women and the Committees for the Defense of the Revolution. Without this support in the first stage, we would not have been able to distribute Abate throughout the province in the first half of the month of June, which was the goal we sought at that time.

[Question] How did you obtain the insecticide?

[Answer] Through the Ministry of Agriculture. When the situation was explained to the comrades in this important branch of our economy, they made the research they had available to the health sector, and provided us on a loan basis with a number of shoulder packs, motorized carriers and insecticide products. Also the comrades of the southern rice growing area supplied us with sufficient quantities of insecticides to be able to begin spraying the province with the aid of other state bodies.

By the first week of June, we already had in practice a functional command post.

[Question] At that time, the structure created later when the epidemic spread throughout the country had not been established nationally, had it?

[Answer] That is true. We had to hurry to gain ground on the epidemic, on the basis of our analysis and evaluation with the comrades in the present provincial operational group.

Thanks to this effort, by the third week of June we had succeeded in providing 100 percent of the homes with Abate and spraying 116 percent of the housing units.

To this speedy action we must also add the concern and support we were given from the very first moments by farm spraying units, since in our province we have an aviation base. The comrades contributed their equipment and their experience in this type of work and we also succeeded in completing the aerial spraying flights over the province quickly.

To summarize, we did good work with the Abate and also a campaign was waged against the adult *Aedes aegypti* mosquitos which might be in circulation. Without a doubt, by the end of June a substantial physical reduction in the number of mosquitos could be seen in the province.

[Question] Tell me, Doctor, why was this work undertaken so urgently?

[Answer] Because in 1977-78 we suffered from a dengue epidemic in the country, and our province was seriously affected on that occasion. We knew that this time our province would be vulnerable to a new dengue attack, because we are familiar with the speed with which it spread. Our concern was focused on the potential the health sector had to deal with such a large number of cases, above all because of the extremely serious characteristics with which this disease appears. All of these concerns led us to work very speedily, and this was how we carried out the initial campaign with the full support of the party and the mass organizations.

We believe that in fact these lightning efforts undertaken in the very first moments made it possible for the work done to keep the development of the incidence of cases much lower than we could have hoped.

The campaign against the harmful vector continued to develop in Sancti Spiritus with even greater impetus than at the beginning, and with more awareness and understanding on the part of the population, the best witnesses to its hopeful and magnificent results.

#### The Western Provinces

As in the rest of the country, the activities involved in the intensive stage of the campaign in the province of Havana began on 3 August. By the 10th, only 61 cases had been reported, showing a definite decline in the dengue fever, in terms of the fact that the total came to 643 cases on 24 June.

The lowest morbidity rate in the province was seen in the municipalities of Artemisa and Bauta, followed by Alquizar, Batabano, Jaruco, Mariel, Nueva Paz and San Nicolas, among others.

Havana has 624 beds available for cases developing no complications. For those patients who do, intensive care ambulances are used for transport to the city of Havana. The province was strengthened by the addition of 24 doctors and 61 nurses, as well as the contribution of specialists (pediatricians) from the capital of the republic.

By 10 August, Havana had completed the first cycle of motorized spraying within homes, had placed Abate in permanent water reservoirs, and had carried out the peripheral treatment with Baytex to a reasonable extent based on the plan. Moreover, the motor-transported spraying equipment had completed and overfulfilled the plan by

13.7 percent. Plan fulfillment was affected, among other factors, by a high level of breakdowns: 7.6 percent for the sprayers and 11.7 for the motorized carriers. Steps have now been taken, and the agricultural sector is making its valuable contribution to the urgent repair of this equipment.

Havana had a serious problem with access to housing. Of a total of 113,699 premises visited, 20,176 were locked up. Because of this, urgent steps were taken to solve this problem--adjustment in work schedules, repeat visits to the premises on the same day when the residents would be at home, and coordination of plans to visit locked housing and other premises with urban reform and other agencies.

Where observance of the sanitary instructions is concerned, Decree Law 27 is being implemented in all municipalities, and to date, 2,192 fines have been imposed throughout the province. The largest number of summonses, 342, have been issued in the municipality of Guines.

At the meeting with the head of the provincial operational group and president of the people's government in the province of Havana, Comrade Pedro Chavez, he said that Alquizar had done the best work in the province, and that the work done by Comrade Chirino, who for years has pursued entomological studies of the *Aedes aegypti* mosquito, deserves special note in that municipality. This made it possible to control the centers of infestation speedily.

Another praiseworthy task carried out in the province was the removal of malangueta at the dam located in Artemisa municipality. The population contributed greatly to this task, in which hoists were even used to remove the aquatic plant. The work done by the settlers in El Corojal, located near the artificial lake, was substantial. It was they who were most affected by the dangerous insect which bred there.

Another task undertaken in the province was the production of home sprayers (flit guns) in San Antonio de los Baños. This product, named "Arimao," is unusual in that the receptacle for the insecticide is made of glass. This item will soon be put on sale.

Guines was not lagging in this matter of initiative. There two cane carts were equipped as dining rooms for the brigades constantly on the move about the city and its environs. Thus the personnel could eat in comfort, served by pleasant waitresses and seated at tables provided with cold water.

A problem which caused the municipal leaders some headaches involved finding a place to discard the debris collected in the clean-up. However, the comrades in Guines did not have that problem, because they had a lake fed by river filtration and the sewage water of the settlement, which was a real center of infestation. They simply filled it with the products of the trash clean-up. Now Guines has an excellent area for a future athletic field overlying what was formerly the lake.

All of the health units went to work from the very first moments as a function of the epidemic. In general, the work of the health personnel was excellent, and all of the comrades, irrespective of their category or official post, voluntarily contributed their efforts to provide a high level of service to the patients.

In the municipality of Bejucal, we visited the dump which initially posed serious problems of severe infestation, because this locality has no bulldozer for moving earth to cover the refuse. In order to prevent mosquito breeding grounds from developing, oil has to be spread repeatedly and the garbage burned, but the danger of breeding centers in the refuse remains.

This same municipality faced a serious problem in the El Rio district, which it could not control since the district is not under its jurisdiction but that of the municipality of Boyeros in the Ciudad de la Habana province. This latter municipality has used a hill which is adjacent to Bejucal as a dump. Unpleasant odors from it reach the population of Bejucal, and as the comrades explained to us, they are taking steps to ensure the elimination of this mosquito breeding center. As this report went to press, we learned that the solution of the problem has been taken up by the people's government in Boyeros.

The good work done in the municipality of Quivicán was also noteworthy. The clean-up was conscientiously undertaken there, with the elimination of centers and possible breeding grounds for the mosquito, mainly in the La Salud zone, one of those most seriously affected by dengue, but where the incidence is now zero. Laudable work was also done by the farm cooperatives in this Havana municipality.

#### Matanzas Province

After a brief visit to the Matanzas command post, we met with the president of the people's government in that province, Comrade Faustino Beato Morejon, who fully explained the launching and the development of the campaign against dengue fever and against the carrier agent, the *Aedes aegypti* mosquito. We learned that the first cases in the zone were reported beginning on 17 June.

Beato Morejon explained that at the beginning, the province lacked equipment for the campaign against the mosquito, and the assistance of the agricultural sector was essential. However, by the end of the month and early July sufficient equipment began to arrive, allowing an intensive campaign which proved very effective. In addition, a conscientious clean-up effort was coordinated with the FMC [Federation of Cuban Women], CDR [Committees for the Defense of the Revolution], CTC [Central Organization of Cuban Trade Unions] and the ANAP [National Association of Small Farmers]. Also, all other bodies made a very significant contribution to the implementation of this task.

By 27 June, work was being done on three aspects: eliminating breeding centers, destroying adult mosquitos and providing conditions for the isolation of all patients in hospitals. The province has a total of some 2,000 beds for dengue fever, and also intensive care wards were created in the pediatric hospital and others. As of this date, the province has had no deaths from dengue fever in more than a month.

Very effective control work was carried out by the party militants: Matanzas has 4,797 blocks and each of them has one member assigned for this purpose. These comrades received instructions during a seminar. The coordinated work of the personnel in the campaign with the population, which began on 3 August, made it possible to reduce the number of cases of the disease to 37 by 15 August.

The province has 96 brigades, of which 35 will continue as permanent, and there are sufficient resources to complete the program successfully. However, protective equipment is a problem: 109 more masks are needed. The last inspection tour revealed good results, but there are still small problems in the process of being resolved.

One problem which occurred in Matanzas Province, as it did throughout the entire country during the first spraying cycles, was the homes to which access was temporarily

impossible. There were some 3,000, and in this connection an intensive campaign must be waged with the active participation of the mass organizations. Special measures were pursued and the cooperation of the population was sought, making possible the energetic and forceful reaction of the province with a view to resolving the problem.

The highest level of incidence was found in Union de Reyes and the lowest in Varadero. Thanks to the work done by the entire population and the effort made by the health workers, the incidence in Union de Reyes is now the lowest: one or two cases a day. For this reason it can be said that Matanzas has the disease under control and a sharp decline can be seen.

One area where there were problems and which was initially fined because infestation centers were found within it was Rayonera de Matanzas. As a result, a real initiative was launched by the workers, and the administration showed concern, taking immediate steps to eliminate mosquito concentrations and breeding grounds. At the time of our visit, Rayonera had done good clean-up work, although it would be necessary to cut the green areas again, since as a result of rainfall they had shown excessive growth, and a check was also necessary to see if any cadres had remained in these areas.

Another site we visited in Matanzas Province was the municipality of Union de Reyes, where we learned that the highest level of infestation was to be found in Cidra and Union de Reyes, although the highest incidence of dengue fever had been in the village of Bermejas. At that time, the greatest potential danger was to be found in Sabanilla, where intensive work is being done to eliminate all concentrations and possible breeding grounds found.

Cardenas formed a brigade of 118 women, working with the FMC. The health brigade's members took a 3-day course and began a task similar to that of the controllers, long before these latter workers began their task in the course of the campaign. The city and the municipality have already completed three collections of garbage and waste accumulated in housing areas, working with the FMC, CDR, CTC and ANAP.

Currently Cardenas has no cases of the disease, but during the last survey, at the Lagunillas power plant and the Merceditas sugar mill, some concentrations were found. There were none in the rest of the territory.

In the Marina or Fundicion zone, we found a very peculiar feature in this Cardenas municipality, a focus of everyone's attention: in the lower areas, where there was swampy water, as well as in the ditches and other places where water accumulates, there were no mosquito larvae although no oil had been sprayed. We asked the municipal director of public health why this was, and we were told it was due to the work of Julian Tan Pam.

The problem in this low and swampy zone in Cardenas, where water accumulates and runs through canals, was resolved by the tenacity and activity of a comrade of Asiatic origin: entomologist Julian Tan Pam, who had the idea of "planting" the species of fish called "gambusia" and commonly known as "guajacon" in the places where water accumulated, including the peasants' water reservoirs. These small fish feed basically on larvae, pupae, and adult mosquitos, providing real biological control of these winged "feeders." Thus the low and swampy zones in Cardenas are protected, and there is no need to use oil or larvicides (which are very costly indeed) to keep the ditches and lakes healthy.

## EFFECTS OF HEMORRHAGIC CONJUNCTIVITIS REPORTED

Havana VERDE OLIVO in Spanish 20 Sep 81 pp 11-13

[Article by Frank Aguero]

[Text] The current epidemic of hemorrhagic conjunctivitis, like the dengue fever epidemic before it, appears to be one of the bacteriological warfare methods implemented by Reagan, Haig and Pentagon and CIA officials to hinder our country's way of life.

The Revolutionary Government of Cuba, therefore, issued on Wednesday, 9 September, a public accusation to which U.S. officials have not yet responded.

"The strange and unexplained manner in which the disease surfaced in Cuba, beginning so suddenly, just like the dengue fever epidemic, in the capital of the republic, as well as previous events repeatedly denounced by Cuba and confessed by the Yankee imperialists themselves, confirm our deepest suspicions that the imperialist government of the United States is using bacteriological weapons against our country," the Cuban statement said.

Public health authorities have again mobilized the country's human and scientific resources to end the epidemic.

Doctors, nurses and auxiliary personnel of the FAR [Revolutionary Armed Forces] Medical Service have an outstanding role in this army of humble workers who are devoting their lives to the health of the people.

Specialists and auxiliary personnel of the ophthalmology clinic of the Higher Institute of Military Medicine (formerly known as the Dr Luis Díaz Soto Central Military Hospital) get little rest these days.

They are to be found on the military post at any hour, in consultation at the polyclinic or attending patients in the ward equipped for those admitted with hemorrhagic conjunctivitis. The daily routine of these professionals also includes visits to military units as part of epidemiological groups who are supervising and directing compliance with the preventive hygiene measures dictated by the FAR Rear Services headquarters.

"Our country's health system guarantees the cure without ill effects of those afflicted. There is nothing to fear: they will not be blind," said Maj Jorge Martínez Ribalta, chief of the ophthalmology clinic and a member of the National Ophthalmology Group.

Fully dedicated to the campaign against this epidemic, several teams of qualified specialists are giving their attention to both members of the FAR and the civilian population.

The staff of the Higher Institute of Military Medicine is composed of Dr Martínez Ribalta, who is its director, and Capt Caridad Suarez and Capt Marina Benítez, who are specialists; First Lt Ideilina Fernandez, Lt Georgina Saint-Blancart, Edith Gonzalez, Olga Neyra and Mayra Hornea, residents. Completing the group are ophthalmology aides, among them Erenia Rodríguez and Mercedes Díaz, a nurse. The first cases were diagnosed on Thursday, 3 September, at Dr Carlos J. Finlay Military Teaching Hospital. A team of specialists at that medical institution, under the direction of Maj Lourdes Ferrer, isolated the afflicted patients and notified the higher agencies so that common criteria might be set up for the diagnosis and treatment of the epidemic.

"The first four cases came to our hospital on Friday. Since then we have been seeing an average of 50 cases a day among the approximately 190 persons who come to the military post each day with symptoms characteristic of other types of conjunctivitis or because they believe they have the symptoms of the epidemic," said Dr Martínez Ribalta.

The specialists explained to newsmen that the patients admitted are those who have a major inflammation of the conjunctiva, in addition to other symptoms, such as swelling of the glands in front of the ears. Inflamed ganglions in the outer ear area, extreme photophobia (sensitivity to light) or those in which any alteration of the cornea is diagnosed.

Patients who are admitted are given a treatment lasting between 4 and 5 days, according to nurse Flora Castro, chief of the specially equipped ward for victims of the epidemic. The maximum hospitalization is 1 week.

Of a total of 89 patients admitted to the center in the first 8 days, only 2 developed slight complications which were immediately controlled.

Treatments of patients admitted and of those who return to their homes or Medical Services posts (in their units) does not differ substantially. In addition to isolation of all cases, an important measure to break the chain of transmission, treatment includes physical and visual rest, applications of antibiotics 4 to 6 times a day, treatment of cycloplegia (if complications are detected) and cold compresses of a physiological serum.

#### Preventive Treatment

"Camilito" Raul Bermudez, an 11th grade student at a Western Army vocational school, suddenly felt an unusually sharp pain in his eyes, and on looking in the mirror, saw that his eyes were red; light bothered him to the point of having to close his eyes. Later on he experienced a discharge from his eyes. He went to the medical post at his school, and from there nurse Nelda Gonzalez took him to the Higher Institute of Military Medicine.

At the school, which was felt to be a possible focus of infection, immediate measures were taken, among them fumigation of the area and orientation of personnel, visits by the epidemiological group and other preventive activities. Preventive

personal hygiene measures advised are to practice personal cleanliness daily, wash the hands regularly, avoid rubbing the eyes and maintain strict personal use of towels, sheets, duffel bags and other items.

On the collective level, it is recommended that all areas be kept clean, that adequate hygienic measures be observed in bathrooms, that breeding places for mosquitos and other carriers be eliminated, and that recreation areas be enclosed and systematically cleaned.

What is Conjunctivitis?

Conjunctivitis is an inflammation of the conjunctiva, the outer membrane of the eyelid which is in direct contact with the atmosphere. It is an area containing many veins and blood vessels.

Besides acting as a protection against infection for the vital organ of vision, the conjunctiva also permits the free movement of the eyeballs.

Inflammations of this membrane are usually benign; they occur throughout the year as the summer weather becomes hotter or as a consequence of environmental microbes, dust particles, etc.

Through the use of various optical diagnostic methods and by comparing the specific symptoms with those of other types of conjunctivitis, it has been established that the current epidemic is the so-called hemorrhagic conjunctivitis.

Hemorrhagic conjunctivitis has never been seen in Cuba before.

It is caused by three varieties of virus: adenovirus 6 and 8, Coxsackie and enterovirus 70, microorganisms which grow at high temperatures (higher than 35 degrees centigrade) and find the conjunctiva an appropriate medium for growth.

The absence to date of this type of conjunctivitis in the Caribbean area plus its sudden appearance in Surinam, Colombia and Panama are factors which lead specialists to believe that the epidemic was introduced into our area, and moreover since the widespread health and epidemiological campaign carried out for the last 2 months leaves little possibility for the spontaneous outbreak of diseases of epidemic proportions.

Virological studies are being made to determine what type of virus has attacked us. There is no doubt now, as the Revolutionary Government's statement indicated, that we are facing another imperialist attack on our country, Dr Jorge Martinez Ribalta said in closing.

8735

CSO: 5400/2005

## ADVANCES REPORTED IN PRIMARY HEALTH CARE

Addis Ababa THE ETHIOPIAN HERALD in English 4 Oct 81 p 1

[Text]

**ADDIS ABABA (EH) —** The enthusiastic and active participation of the broad masses is of vital significance in the effective implementation of the "Primary Health Care" programme and in the improvement of public health, reported a press release issued by the Ministry of Public Health.

The major part of the programme of Primary Health Care, according to the release, focuses on balanced diet, environmental sanitation, and mother and child health care. The programme also gives due consideration to the proper supply of clean water, vaccination services, prevention of contagious diseases and to the provision of first aid services wherever and whenever necessary.

Since the programme of primary health care is based on the principle of self-help approach, its implementation helps the masses to improve and preserve good health at a minimum cost, the release asserted. It is imper-

tant that health organisations and centres at various levels and health personnel mobilise the necessary resources and see to it that the programme is implemented effectively, the release noted. In view of this, it was further stressed, the significance of coordinating the activities of development oriented projects with that of health service rendering organisations so that they both can make efforts towards the implementation of the programme of primary health care and the general improvement of the health condition of the public.

The qualitative and quantitative improvements made in the area of rendering extensive health services to the masses since the onset of the Revolution as a result of the various progressive measures and steps taken by the Revolutionary government was also pointed out. At the moment, the country is in a position to reach and render health services to 43 per cent of the total population. Compared to the situation in pre-revolution Ethiopia, the country has now inc-

reased its health services by over 186 per cent within the last seven years, according to the release.

The number of health personnel in pre-revolution Ethiopia was 6,472. Now the number has gone up to 11,354. The release also reported in detail the number of health personnel working throughout the country in different areas of specialization. The efforts made in elevating various clinics to a level of health centres and in establishing new health centres were also pointed out. The Expanded Programme of Immunization (EPI) on six diseases, launched in 1980, is currently underway in 80 cities and towns of the country. Preparations are also being made to promote 13 clinics to a level of health centres and to set up new ones in the not distant future, the release disclosed.

CSO: 5400/5000

## REPORT ON HUMAN TRYPANOSOMIASIS IN COUNTRY

Addis Ababa THE ETHIOPIAN HERALD in English 11 Oct 81 p 5

[Text]

The Rhodesian form of sleeping sickness was first reported in Ethiopia in 1967 from Maji Hospital (Baker and McConnell, 1969, Trans. R. Soc. Trop. Med. Hyg.). The infection is believed to have taken place in the upper Akobo River. Later the disease was at large in the Gambella Awraja, Illubabor Administrative Region, reaching an epidemic proportion in 1969 along the Gilo River. It was also reported from the Bore and Akobo River areas, though the incidence along these two rivers was relatively low.

Prior to 1967, no cases of sleeping sickness were reported in the country. The appearance of this dangerous menotic disease in Gambella has led concerned scientists to speculate the whereabouts of its origin; but none of the alternative possibilities is yet confirmed.

Ever since, *T. rhodesiense* has been prevalent among the indigenous people of Gambella, the Anuaks mostly. Since the Anuaks are not a widely mobile tribe, the fear that the disease may spread to other parts of the country through human movement was not that pronounced. The disease was being reported only from Gam-

bella with fluctuating yearly incidence.

Eventhough the valleys of the Omo and its tributaries, the Didiya River and the Bilo and some of its tributaries were implicated as areas of special risk to which the infection may spread, it is only recently that a case, a poliovirus, was diagnosed to have the disease outside the known focus. This case was found in the Gamo Gofa Administrative Region. The infection is believed to have taken place along the Mero River, a tributary of the Omo River, in Mero Woreda (Odfang and Ashjara, 1981, Eth. Med. J.).

The possibility that the case might have acquired the infection outside of Gamo Gofa was investigated in May 1981, by a team from the Central Laboratory and Research Institute. Records kept at the Police Headquarters in Gamo Gofa and interviews held with the case's relatives showed that he had never left his station of duty, Mero Woreda, within months before the onset of the disease. (The case died in September 1980). In fact according to the records kept at the Police Headquarters his movement was restricted to

**Como Gafa Administrative Region.**  
One is thus led to conclude that the case acquired the infection locally.

In collaboration with the Communicable Disease Control Division of the Ministry of Health, CLRI is planning to undertake clinical, parasitological and entomological surveys in the suspected area. Meanwhile CLRI requests health personnel in Southern provinces to be watchful of trypanosomic cases and promptly reports to us or to the CDC division of the Ministry.

**(CLRI News Letter)**

CSO: 5400/5000

## BRIEFS

REGIONAL VACCINATION PROGRAM--The Medical Field Unit of the Ministry of Health, will next week embark on a vaccination programme against yaws, yellow fever, measles and tuberculosis at Akim Essaso. Baffour Okyere Frempong II, Chief of the town, has therefore pleaded with his people to take the programme seriously to protect themselves against such infectious diseases. Speaking at an Akwasidae Festival at Essaso, Baffour Frempong, an Agricultural Officer of the Cocoa Production Division, stressed the Importance of the vaccination programme. [Text] [Accra DAILY GRAPHIC in English 16 Sep 81 p 4]

CSO: 5400/5622-E

## BRIEFS

CONJUNCTIVITIS IN PETEN--Epidemiology officials of the Ministry of Health have taken measures to try to end the outbreak of conjunctivitis which has threatened areas of the department of Peten for more than 1 month, Dr Gustavo Adolfo Cordero Herrera, vice minister of health, has told the press. He said that to date the type of conjunctivitis which has broken out in the Peten area has not been identified. The disease is transmitted, he said, by the common mosquito known in Peten as "Chaquiste." He indicated that this disease can be cured with medicated eye-washes and other types of eyedrops. It is also recommended that dark glasses be used, since often conjunctivitis is spread through lack of cleanliness or by rubbing the eyes with dirty hands. He indicated that samples of the disease have been sent to special laboratories to determine what strain of conjunctivitis is threatening the people of the Peten region. Finally, he said that health authorities are working to control the Peten epidemic. [Text] [Guatemala City PRENSA LIBRE in Spanish 11 Sep 81 p 47 8735

CHILDREN'S EPIDEMIC IN COATEPEQUE--Coatepeque--An epidemic among children has already caused several deaths, and many other patients are in very serious condition in clinics, private hospitals and in the national hospital. The disease attacking the children, according to some physicians, is marked by diarrhea, vomiting, fever and dehydration. In just a few hours the disease undermines the health of small children, who, if they do not receive immediate medical attention, may die at their parents' homes. Many children are being cared for and treated in medical clinics, private hospitals and the national hospital for this epidemic disease, which is causing serious concern among the people, since several children have died and many are in serious condition. The pediatrics department of the national hospital reports that several children have been admitted and that that department is extremely crowded. It was reported that six children admitted Monday evening died a few hours after their arrival. Some deaths have also occurred at various homes. To date doctors have been unable to explain the source of the epidemic affecting children here. [By Edgar Octavio Giron Castillo] [Text] [Guatemala City PRENSA LIBRE in Spanish 24 Sep 81 7 8735

MORE ON COATEPEQUE EPIDEMIC--Coatepeque--Five children died here on 22 September from acute gastroenterocolitis of unknown origin, which has reached epidemic proportions among the children of this locality. The total number of deaths from the disease, which is caused by an unknown virus, may reach 11, according to local medical authorities. The pediatrics ward of Juan Jose Ortega Regional Hospital here reported that between 19 and 23 September, 17 children were admitted with gastroenterocolitis of unknown origin. Of those patients, 14 are from this city and

three from outlying municipalities. The children are from the districts of El Jardín, La Esperanza, Candelaria, Las Casas, San Francisco, El Rosario and Lotificación Magnolia. Three deaths have occurred at the national hospital, one on 20 September and two on 22 September. Meanwhile, many children are being treated at private clinics and hospitals and at home, and it is feared that more will die from this acute gastroenterocolitis of unknown origin. [By Edgar Octavio Giron Castillo] [Text] [Guatemala City PRENSA LIBRE in Spanish 25 Sep 81 p 22<sup>7</sup> 8735

CSO: 5400/2005

IRAN

BRIEFS

CHOLERA DEATHS REPORTED--During the period 19 to 26 September a total of 28 persons throughout the country died as a result of contracting cholera. The office of public relations and guidance of the Ministry of Health has announced: "According to reports received from hospitals and clinics throughout the country, during the period 19 to 26 September of this year, 3,990 persons, suffered vomiting and diarrhea for various medical reasons. The department of public relations and guidance of the Ministry of Health has announced that out of this number, 1,172 were positively diagnosed as suffering from cholera, and regrettably, 28 persons died in various cities throughout the country." In order to avoid contracting this disease and to stop the spread of contagious diseases, water should be boiled whenever pure drinking water is unavailable. Citizens have been enjoined to wash their hands with soap before handling foodstuffs and after using sanitary facilities and to wash fruits and vegetables in chlorine and to kill flies and other insects. [Text] [Tehran KEYHAN in Persian 8 Oct 81 p 2]

CSO: 5400/5301

## MALAYSIA

### BRIEFS

SCHISTOSOMIASIS DISEASE--Kuala Lumpur, 14 Oct (AFP)--A worm which causes serious damage to the liver and spleen is found to exist in Malaysia. The worm, which causes the disease "schistosomiasis," which affects about 200 million people in the world mainly in Africa, South America and West Asia, was first discovered in Malaysia by the Institute for Medical Research (IMR), recently. It was found in a man in Pahang State. Quoting an IMR spokesman, the National News Agency Bernama said today that the worms were carried by certain species of snails found mainly in small streams in deep jungle. The IMR is now making a comprehensive study on the distribution of these snails and parasites in an attempt to define more accurately the regions where potential danger exist. Investigations have shown that the Malaysian species of worm are different from those found elsewhere. The Malaysian species are thought to produce a milder disease in man than the more widespread Asian species "schistosoma japonicum." [Excerpt] [BK161451 Hong Kong AFP in English 0709 GMT 14 Oct 81]

CSO: 5400/4519

**MINSA ISSUES CONJUNCTIVITIS ALERT IN COUNTRY**

Managua BARRICADA in Spanish 11 Sep 81 p 9

[Article by Mario Tapia]

[Text] In the past 2 weeks, the viral conjunctivitis epidemic which is now plaguing Colombia, Surinam and Honduras has been reported among the population in Zelaya Sur, Leonel Arguello, the official in charge of preventive medicine for the region, has stated.

He said that the conjunctivitis was brought to the Atlantica region by Honduran sailors seized for piracy in Nicaraguan waters.

Eighty percent of the Honduran sailors registered at El Bluff showed symptoms of the disease.

After these first seizures, the disease spread in El Bluff.

Conjunctivitis takes only 24 hours to develop. It is recommended to use no medicine at all--eyewashes, etc--since the best treatment is periodic rinsing with water. Discomfort in the eyes occurs after 4 to 7 days. It is important to stress that no medicine should be used, since they may cause serious eye infection because of the corticosteroids such products contain.

Currently, Dr Arguello said, conjunctivitis has spread to Waspan, Bluefields, San Juan del Norte, Laguna de Perlas, Las Minas and Puerto Cabezas.

**Health Regions Alerted**

Meanwhile, the Ministry of Health in Managua sent recommendations 5 days ago to all the health regions of the country to warn and instruct the citizenry about the treatment of conjunctivitis.

As we said before, all that is needed is to cleanse the eyes.

Dr Jaime Manzanares, an official in the department of preventive medicine at the Ministry of Public Health, explained that there are three types of conjunctivitis: viral, which causes no physical damage; bacterial, which is the most dangerous because it often affects other organs, and catarrhal conjunctivitis, which is caused by smoke and dust.

#### AA Convention Canceled

Meanwhile, the vice-minister of health, Dr Ivan Tercero Talavera, sent a letter yesterday to the director of the office of general services on Alcoholics Anonymous stating the following:

"Because of an outbreak of hemorrhagic conjunctivitis in the city of Bluefields, the Ministry of Health has decided to cancel the scheduled national convention of Alcoholics Anonymous, which was to have been held in Bluefields on 13 and 14 September, because it believes that if it were held this might be an important factor in spreading the disease throughout the national territory."

5157

CSO: 5400/2208

## CAMPAIGN AGAINST AEDES IN ITS FINAL STAGE

Managua BARRICADA in Spanish 28 Aug 81 p 14

[Text] Lea Guido, minister of health, appealed to the entire people today to deal the final blow to the mosquito which carries dengue fever, the *Aedes aegypti*, in the final stage of the campaign launched 2 weeks ago.

Other members of the National Emergency Committee for Combating the *Aedes Aegypti*, in addition to companero Guido, reported on the various activities which have been carried out in Managua and in the rest of the country.

Guerrilla commanders Walter Ferreti, national chief of the Sandinist police, and Leopoldo Rivas, of the EPS [Sandinist Peoples Army]; Commander Leticia Herrera, national secretary of the CDS [Sandinist Defense Committees]; Agustin Lara, of the departmental leadership committee of the FSLN [Sandinist National Liberation Front]; Glenda Monterrey, national secretary of the AMNLAE; Francis Cuadra, of the 19 July JS [Sandinist Youth]; and Dr Ivan Tercero, vice-minister of health, participated in the press conference at Government House yesterday afternoon.

### A Successful Campaign

Lea Guido stated that the campaign has been a great success. The various sectors have participated outstandingly. In Managua, more than 36,000 homes were treated. Only 278 owners refused to open their homes to the popular brigade members.

However, this attitude was termed a health problem by the minister of health. In all, more than 126,000 potential breeding areas were destroyed, for which purpose 636,000 grams of Abate were used. More than 2,803 vacant lots were cleared, and 5,750 cubic mm of trash was removed in 650 neighborhoods.

Although the details are not available from the other departments, the health authorities recognize the participation of the entire revolutionary state, without which the campaign would not have been possible. In Managua, 200 trucks were mobilized, while it was announced that many vehicles were treated on the country's boundaries (in Las Manos alone, 601 were sprayed), as well as 256 planes, while many ships were treated as well.

### CDS Brigade Members

Commander Leticia Herrera said that the CDS took on the task very responsibly. The goals for brigade membership were surpassed. A total of 60,000 brigade members were mobilized throughout the country.

She made an appeal to the people to multiply efforts to complete the campaign successfully this coming weekend. She appealed for the participation of the people in Granada and Masaya, where the expected response has not been obtained.

#### Women's Contribution

Glenda Monterrey, national secretary of the AMNLAE, said that the Ministry of Interior trained 40 companeros as analysts. Even the prisoners within the national penitentiary system participated in the packing of Abate in little bags.

In all, the Ministry of Interior workers packed 3,081 pounds of Abate. "We are always ready to participate in any task for the benefit of the people," Commander Ferreti said.

Commander Leopoldo Rivas, of the EPS, said for his part that his people had drafted a domestic eradication plan.

He noted that the dengue disease is directly related to the defense of the country, since if an epidemic should develop it would threaten the lives of the combatants. He added that the EPS has given the Ministry of Health all necessary cooperation, consistent always with the structure of that military body.

#### Special Neighborhood Plan

Agustin Lara spoke on behalf of the FSLN. He termed the successes of the campaign truly impressive. He said that a special effort will be promoted in Managua in the residential neighborhoods where there has not as yet been a positive response.

He appealed to these neighborhoods to show greater concern for their health and thus that of the entire people.

Francis Cuadra, of the 19 July JS, spoke on behalf of that youth organization. He said that its members are proud to have participated in the campaign, while these tasks were undertaken in connection with the celebration of the first anniversary of the National Literacy Campaign. "There is enthusiasm for participation in any activity and much optimism for next weekend," the Sandinist youth leader noted.

Finally, companera Lea Guido announced that the next few days of the campaign will include a surprise. She would say no more on this subject, since a special press conference will be called precisely to reveal the surprise.

5157

CSO: 5400/2208

## NIGERIA

### BRIEFS

CHOLERA EPIDEMIC--Ten persons have died of cholera in Ibadan (major city in western Nigeria) during the past few days, hospital sources announced on Tuesday. The sources added that about 40 patients suffering from the disease were admitted into various hospitals in the city between Saturday and Monday. [Excerpts]  
[AB171145 Paris AFP in French 1827 GMT 13 Oct 81]

CSO: 5400/5628

## BRIEFS

EPIDEMIC CLOSES CHILD CENTERS--The Ministry of Education working in coordination with the Health Ministry have decreed a temporary closing down of preschool centers in the metropolitan area in order to halt the advance of a viral meningitis epidemic affecting the capital city. The measure will be in effect starting tomorrow, 13 October, at orientation centers, child day centers, kindergartens and prekindergartens in the districts of Panama and San Miguelito. An urgent meeting was held this morning at the Health Ministry with the presence of Minister Jorge Medrano, Education Minister Susana Richa de Torrijos, the Health Ministry Epidemiology Commission and Gorgas Laboratory scientists who analyzed the causes of the disease and preventive measures. The virus causing the meningitis is under study at Gorgas Hospital and an official report on the same should be ready by Wednesday. As of this time 200 cases of viral meningitis have been treated. In addition there have been some 20,000 subclinic cases which could have been the infection. Most clinical cases are from the San Miguelito area. [Excerpt]  
[PA130438 Panama City RPC Television in Spanish 2300 GMT 12 Oct 81]

CSO: 5400/2012

## SAO TOME AND PRINCIPE

### BRIEFS

HEALTH CARE STATISTICS--Until 1975 health structures were not implanted for the benefit of the people. In Sao Tome and Principe, it was important to guarantee the minimum in order to reap the maximum. Thus no tradition existed until independence for "preventive health care." Hospitals were viewed as mere curative institutions. The year 1975 brought a reform in the field of health. Hospitals began exercising preventive functions, and these measures became more widespread with the establishment of health centers in every district. Today Sao Tome possesses hospitals in every area; however, there are serious maintenance problems. There is a shortage of equipment and the same is true of medical and para-medical personnel. Sao Tome and Principe has 8 national physicians and 1 physician [as published] per 2,500 inhabitants. [Excerpt] [Maputo TEMPO in Portuguese 27 Sep 81 p 16]

CSO: 5400/5629

## BRIEFS

TRINCOMALEE CHOLERA DEATHS--Cholera has hit Trincomalee district once again. This time Kinniya, a principal town in the Muttur electorate in the district has been affected. Five persons have died due to cholera and over fifty persons described as positive cases have been admitted to the Trincomalee Base Hospital. Prompt preventive measures have been taken by the Health authorities under the direct supervision of the Trincomalee Medical Officer of Health. According to investigations made by the Health authorities, the disease has spread due to some villagers using drainage water for drinking purposes because of the drought from a channel called Peenkanudaintha Aru, which is situated in the south-west of Kinniya town. [Text] [Colombo SUN in English 5 Oct 81 p 1]

CSO: 5400/4903

## INCREASE OF VENEREAL DISEASES REPORTED

Kinshasa ELIMA in French 13 Sep 81 pp 1, 7

[Article by Lutumba Washi Basunga]

[Text] Right now, venereal diseases are noticeably gaining ground in Mbanza-Ngungu, the district capital of the Cataractes subregion and of the Mbanza-Ngungu zone, in Kwilu-Ngongo located in the Mbanza-Ngungu zone and in Kimpese, located in the Songololo zone.

Tourists passing through these three social and economic centers, as well as the local inhabitants, are forever complaining about the ineffectiveness of the health services.

Given the seriousness of this problem, we paid a visit to the subregional health office where we chatted with several officials who are in charge of specialized services dealing with the health of "ndumba" women and other people as well. Looking at the statistics, we noticed that for the year 1980, venereal diseases, mostly transmitted by "ndumba" women, top the list with 80 percent of the cases.

In the town of Mbanza-Ngungu:

Number of women checked	124
Number of women treated	46
Number of loose women checked	122
Number of loose women on the run	2
Number of pregnant women	5
Number of infections detected	230
Positive smear tests	46
Negative smear tests	78

Center of Kwilu-Ngongo:

Number of smear tests	523
Number of loose women registered	470
Number of unmarried women checked	26
Number of loose and unmarried women checked	637

#### General Results of Smear Tests:

Number of women infected	377
Number of women not infected	160
Number of shots given	888 (penicillin, procaine, extencillin)

#### Center of Kimpese:

Number of women in the check list	150
Number of women checked	79
Gonococcal infections treated	54
Venereal diseases treated	227

#### A Serious Social Problem

It is unquestionable that this situation has serious consequences to the point that many "loose" women in Mbanza-Ngungu, Kwilu-Ngongo and Kimpese are going around with venereal diseases which have become resistant to treatment.

#### The Ndumba Women Adopt an Arrogant Attitude

The few "ndumba" women whom we met at the health service clinic surprised us with their amazing statements. They did not hesitate to lay the blame on the police and other armed services which show a guilty tolerance. So far, they told us, the checks have proved to be an ineffective measure due to the immunity enjoyed by some "ndumba" women who are living with big shots. These women are notorious for their flagrant refusal to submit to tests when they are summoned by health service officials. "In what way are we to blame more than those proteges?" they asked.

#### Health Service Raises the Alarm

When they read the reports from Kimpese, Kwilu-Ngungu and Mbanza-Ngungu, the health authorities complain about the bad behavior of the untouchables who forbid their concubines to be checked. It is only when these men become infected that they run to the health office with their complaints.

The "roundup" operation of loose women mounted last year by the health services, turned into a failure. This was due to the fact that some men turned up in court, at the police station and in the subregional office instead of the carriers of venereal diseases. If some women were arrested and taken to the central jail in Mbanza-Ngungu, it was because the police court remained adamant. In spite of the underhand behavior of the big shots who are protecting the disease, the health services have decided to repeat their roundup operation this year. They will do it whether those who live in the fringes of society and the "untouchables" like it or not.

The ball is now in the court of the appropriate authorities who must use their power to enforce the law.

8796

CSO: 5400/5613

## VACCINATION CAMPAIGN AGAINST CHILDHOOD DISEASES TO BE LAUNCHED

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 14 Jul 81 pp 1, 6

[Article by Yav Mwin-Mem]

[Text] The subregional commissioner of Lubumbashi, Mvuma Ngeti Nfusukila, met with a delegation of physicians in his office last Saturday. The delegation was headed by the director of the university clinics in Lubumbashi, Dr Talleyrand.

In the course of their work session, the medical team presented the subregional authority with the outline of the work it hopes to carry out throughout the Lubumbashi subregion, in terms of a campaign against childhood diseases. It will be expressed in terms of preventive efforts against measles, poliomyelitis and tuberculosis.

These diseases are among those most dangerous to young children. The complications they entail are such that the attending physician is often powerless. Therefore, a vaccination campaign is urgently needed, the doctors said.

The preventive campaign is being organized by the service known as the "expanded vaccination program," working closely with the antituberculosis league. Children between 36 months and 3 years of age are involved in this vaccination campaign.

In view of the importance of this activity, the medical corps has asked the subregional administration to aid it in its task. The effort to eliminate childhood diseases cannot succeed unless the material resources are found, the physicians told the subregional commissioner.

The delegation of physicians also stressed the publicity campaign which must precede the vaccination campaign, for the battle launched against these diseases cannot succeed without the participation of the parents, the doctors said.

The subregional commissioner, for his part, promised material aid to the medical teams. He stressed the fact that the vaccination campaign is of a compulsory nature. Therefore, all possible publicity means will be used.

The battle will be waged on a double front, the subregional commissioner said. On the one hand, discussions will be held in the zones, localities and neighborhoods, and on the other, announcements will be made in the enterprises. "Those in charge of the organizations mentioned will see to the implementation of the recommendations I will send them in a circular," the subregional commissioner said.

Mr Mvuma thanked the delegation of physicians for their laudable undertaking consistent with the dictates of the "policy of social cohesion."

## BRIEFS

MEASLE VACCINATION CAMPAIGN--In a letter addressed to the authorities of the various enterprises in the Lubumbashi subregion, the subregional urban commissioner, Mvuma Ngeti Mfusukila, has announced that he has just made vaccination against measles compulsory throughout his jurisdiction. In this connection, he expressed the hope of seeing the children at each enterprise covered by the campaign at these installations, preferably the dispensaries. Vaccination, he explained, will be free. He also stressed the need for each enterprise to draft a vaccination plan in order to be able to establish an overall program and schedule a day on which the nursing team will be made available to the enterprises where vaccinations will be carried out. In our Monday issue we will publish the schedule for vaccination and the various medical teams which will carry out this campaign in each zone. [Text]  
[Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 25-26 Jul 81 pp 1, 8] 5157

CSO: 5400/5277

## ZAMBIA

### BRIEFS

RABIES INFESTED AREA--Kasama has been declared a rabies infested area, according to a Government Gazette notice published on Friday. It said all animals of the canine species are to be secured in accordance with the control of dogs regulations with immediate effect. Meanwhile, the Gazette has announced the cancellation of a notice which declared Muyombe area rabies infested on May 8. [Text] [Lusaka SUNDAY TIMES in English 18 Oct 81 p 1]

CSO: 5400/5632

## MYSTERY DISEASE KILLS FOUR IN LOWVELD

Salisbury THE HERALD in English 18 Oct 81 pp 1, 3

[Text]

**A MYSTERY killer disease, which has already claimed the lives of four children is sweeping Zimbabwe's Lowveld.**

The disease, believed to be caused by a still unidentified virus, has attacked at least 300 people in the area over the past three weeks.

Last week researchers at the University of Zimbabwe were at work trying to isolate the virus.

Deputy permanent secretary of health Dr Louise Westwater said outbreaks of the illness, often mistaken for typhoid, had occurred in the region before.

"This is not typhoid... it is a rather obscure disease which we hope will die out on its own within a month or two," she said.

One of the worst affected areas is Mwanexana, 30 km north-west of Rutenga. The four dead children all attended the local primary school.

Of about 70 pupils taken ill more than 40, including a number in hospital, are still absent.

The deputy headmaster, Mr Davison Moyo, said sick pupils who had been unable to sit their grade seven examinations last week would be given the opportunity to take them later.

Mr Moyo said pupils started collapsing and complaining of headaches, upset stomachs and dizziness during morning assembly about two weeks ago.

"Some of them fainted on their way home," he said. "It caused a lot of alarm because it was all so sudden."

Local health authorities were immediately informed and went to the school to investigate, he said.

The sick pupils were ferried to the district hospital at Neshuro. The more serious cases were then transferred to Fort Victoria General Hospital.

Mr Manfred Vingura Muhango, senior medical assistant at Neshuro Hospital, where two of the

children died, said he at first suspected malaria and gave appropriate treatment.

When the patients failed to respond he tried treatment for typhoid. Only a few had responded.

Most of the pupils sent to Fort Victoria and given anti-typhoid treatment had, however, recovered. These had been returned to Neshuro and detained because it was feared they would become reinfected if they went back home.

"But there was nowhere for them to sleep and nothing to eat so most of the pupils fled," said Mr Muhango. "We fear they will soon be back with the same complaint."

Dr Westwater dismissed the widespread belief in the Mwanexana area that the illness was caused by contaminated water.

During the dry season the pupils dig for water in the dried-up bed of the Mwanexana River at a spot only 50 m from a cattle dip.

BRIEFS

RABIES IN PARANA--Paranavia--About 200 homeless dogs will be put to sleep in the small municipality of Itaquajé, in northeastern Parana, because of the extent of the rabies outbreak in the town. The disease has already been confirmed in 10 animals that had indirect contact with over 100 people, most of them children. Another 400 dogs who have owners will be revaccinated. This was the only measure that municipal authorities and the Parana Secretariat of Agriculture could arrive at to eradicate the focus of canine rabies, after a meeting at the city hall. The meeting was attended by Mayor Celso Inacio Ramalho; Anor Antunes, president of the chamber; Elio Joao Ventura, chief of the Regional Nucleus of the Secretariat of Agriculture; Marco Antonio Teixeira Pinto, regional coordinator of animal health protection, of the secretariat; chiefs of the health units of Colorado and Paranacity; and other technicians of Itaquajé and neighboring municipios. The decisions have the support of veterinarian Jose Antonio Rosa Filho, chief of the Maringa Regional Nucleus of the Parana Secretariat of Agriculture. The dogs will be sacrificed in a way that will not cause a clash with animal protection groups. [Text] [Sao Paulo FOLHA DE SAO PAULO in Portuguese 23 Sep 81 p 21] 6362

CSO: 5400/2007

# MYSTERIOUS CATTLE DEATHS AFTER DISINFECTION PROCESS

Beira NOTICIAS DA BEIRA in Portuguese 12 Sep 81 pp 1, 3

[Text] Last April, some 413 head of cattle died shortly after undergoing a disinfection process in Micaune, Zambesi.

Since this occurred "a long time ago," so to speak, this fact may cause little concern. However, the truth is that to date no light has been shed on the matter despite the fact that laboratory tests have revealed a foreign element in the composition generally used in disinfection tanks. What makes this incident even more atypical is that there is no recollection of any cattle ever having died of poisoning following such a process.

About a week ago, we were talking with Dr Geraldo Rodriguez, from the Zambesi stock-raising farm, who, shortly after this incident was asked to come to Micaune in his capacity as veterinarian to investigate the causes of these deaths. Geraldo Rodriguez told us that when they spoke to him on the subject, he was surprised not only at what they told him but even more so at what this incident led one to believe. He said that he had made the required analyses and confirmed that it would be impossible for the cattle to die from a disinfection process unless foreign elements were present in the product generally used for this purpose.

This loss means about a 3,000-conto financial set back for the government cattle-raising sector in Micaune. Dr Geraldo also told us that in normal circumstances he should have arrived in Micaune the day after he was called from Chinde, but as the roads were so bad, he arrived there almost 3 days later. And even had he arrived on the same day, he could not have prevented the cattle from dying, for the poison used was such that all the cattle would be dead in less than 4 hours. He made this statement in the presence of many people, among them, representatives from private and government enterprises and from the cooperative sector.

## And Cattle Are Still Dying

Micaune is one of the largest steer-producing areas. The Irmaos Filipe company alone has about 12,000 head of steer, and the government sector has about 1,000.

But because Micaune is almost totally isolated, someone may be taking advantage of this fact to continue causing cattle to "disappear" in this manner. The fact that within the last 3 months, Mendes, another private company, has lost some 100 head of cattle, without anyone's having discovered why, goes to prove this.

It is, in fact, a deplorable situation considering that in many cities in the country over 1,000 people are going without any meat; and in other parts of the country, such as in Micaune, they are not behind its "disappearance!"

However, what is still more alarming is the fact which we first pointed out. On the one hand, the large number of cattle which have died, and on the other, the fact that this is causing a withdrawal [from the area] because some people are refusing to entrust their cattle to the Micaune disinfection process, for they are afraid that they may drop dead from poisoning.

It is therefore important to explain to these people, cattle-raisers in Micaune, that if those 300 and more head of cattle died, it was because someone had poisoned the tank and not because the disinfection process is causing this kind of death. And at the same time, they must look for and openly accuse those who are responsible for this!

8870

CSO: 5400/5611

# MYSTERY SLIME KILLING MOST MARINE LIFE IN TASMAN BAY

## Fishermen's Livelihood Threatened

Auckland NEW ZEALAND HERALD in English 19 Sep 81 p 3

[Text]

### Nelson

Nelson fishermen yesterday said their livelihood was in jeopardy following the discovery of a mystery grey slime which is killing most marine life in Tasman Bay.

They want the abandoned 1981 Nelson - Marlborough scallop season to be reopened to give fishermen some income over the next few months.

A spokesman for the Nelson Fishermen's Society, Mr Neil Harvey, said: "The slime is killing everything in Tasman Bay. We should be allowed to take the scallops before they are all dead. If we do not get a chance to dredge the scallops, there will be nothing left for us and we will need Government assistance."

### Samples

Mr Harvey on Thursday took a Ministry of Agriculture and Fisheries scientist, Mr M. Bradstock, and a Cawthron Institute microbiologist, Mr Lincoln Mackenzie, to some of the worst-affected areas.

The pair dived at two areas in Tasman Bay to take samples and to test the effect on marine life.

"We did not see a single sign of life when diving," Mr Mackenzie said.

After working on samples of the slime he felt it may be dinoflagellate, a microscopic single-celled plant.

The characteristic of that organism is that it blooms in tremendous numbers.

Mr Mackenzie said the Tasman Bay slime could be similar to the "red tides" found off the United States East, which contain potent toxins.

"The slime we have got is definitely killing fish but as yet we do not know if it contains toxins or is smothering them."

Mr Bradstock said a number of dead octopuses had been found in trawl nets along with the slime over the past few days.

### Thicker

"Octopuses live in burrows on the bottom so are the first to be affected."

Mr Bradstock said that when diving in 30 metres of water east of Adele Island in Tasman Bay the scientists found the slime was thicker as they went deeper.

"We came to a patch which we thought was the bottom, it was like a great grey plain below us. Instead, we sank through the long, thin skeins of inter-woven slime."

"When we got to the bottom, it was rolled up in coils and there was no sign of life."

In only eight metres of water on the western side of Adele Island the scientists found an even thicker patch of slime.

"It formed a blanket over shellfish — scallops and mussels were cloaked in the stuff," Mr Bradstock said.

A microbiologist at the Cawthron Institute, Dr Paul Gillespie, said three species

of dinoflagellate had been found in the slime.

But he was not sure whether the dinoflagellates were causing the slime. The cause could be a species of algae.

Bacteria in the slime was being examined to see if it could be depleting oxygen in the water.

Dr Gillespie said he had heard of other instances of similar slime in New Zealand waters — "but it has never occurred to this extent before."

Fishermen had been troubled with slime in Tasman Bay in the early 1960s, he said.

Mr Harvey said the only fishing offering to small boat trawlermen were flounder which some were catching in a small area not affected by slime outside Port Nelson.

## Identified as Hydro Plankton Bloom

Auckland NZ HERALD in English 23 Sep 81 p 5

[Text]

Press Assn Wellington

The organism producing the slime choking Tasman Bay has been identified, but there appears little the Ministry of Agriculture and Fisheries can do to control it.

The Minister of Fisheries, Mr MacIntyre, told Parliament yesterday that the culprit was hydro plankton bloom, and the ministry was looking at its biology, distribution and abundance.

"At this stage it is unlikely the ministry can do anything to influence the natural progression of the slime in such a large area as Tasman Bay," Mr MacIntyre said.

Answering an urgent question was Mr M. F. Courtney (Independent-Nelson), he said the slime was "a natural phenomenon" which had occurred several times in the past.

Outside the House, the director of the Oceanographic Institute, Dr D. E. Hurley, said yesterday that

several slime outbreaks similar to that in Tasman Bay had been recorded throughout New Zealand.

The first, in Hawkes Bay from 1908 to 1911, caused a marked reduction in flat-fish catches. Slime was also reported to have struck in Hawke Bay in 1936, the Hauraki Gulf in 1938 and 1964 and the coastline near Tauranga in 1968.

Dr Hurley said it had been found that nothing could be done to remove the slime: "You just have to wait for it to clear."

But, he added: "There is no indication that it has a lasting effect, though."

Dr Hurley thought it unlikely that the present outbreak would spread, because the factors which gave rise to it would have passed by now.

"The conditions it needs to grow to this extent are always present in the water," he said, "but under certain meteorological conditions there is massive growth."

CSO: 4700/149

## SHARP REDUCTION IN INCIDENCE OF CATTLE DISEASES REPORTED

Auckland NEW ZEALAND HERALD in English 28 Aug 81 p 9

[Text]

Campaigns against brucellosis and tuberculosis have brought about a sharp reduction in the incidence of the diseases in New Zealand cattle.

The control schemes aimed at beating the two diseases are likely to continue for some time.

The Ministry of Agriculture and Fisheries believes the point at which tuberculosis may be viewed as beaten will be some years away but victory over brucellosis may be sooner.

This year the number of cattle reacting to brucellosis tests is expected to drop to about 8000, compared with 7728 last year and more than 20,000 in 1974.

About 3300 cattle are predicted to react to tuberculosis testing this year, against 4300 last year and more than 15,000 in 1973.

## EEC Directive

The campaign to eradicate the diseases is a response to European Economic Community requirements for beef access.

An EEC directive called for each meat processor plant to provide a separate

slaughterhouse for sick or suspect animals.

Rather than having industry funds going into these slaughterhouses the Government decided in 1971 to attack the cause rather than the symptom.

## Not Possible

It mounted a campaign to eradicate brucellosis from the national herd and extend an existing tuberculosis eradication campaign in dairy cattle to cover the beef herd as well.

Mr George Rogers, an assistant director with the ministry's animal health division, says that now the 10-year limit has expired a problem left is what to do with remaining diseased cattle.

Traditionally, such cattle have been killed at freezing works and have joined all other beefmeat destined for the local market in New Zealand.

Now that the reacting cattle are banned from export slaughterhouses this course is no longer possible and Mr Rogers says it is not economically viable to have it processed any other way.

It has decided to have diseased cattle slaughtered and buried in future, or, where possible, boned down.

EFFECT OF FACIAL ECZEMA ON LIVESTOCK FOUND LESS SEVERE

Auckland NEW ZEALAND HERALD in English 25 Sep 81 p 9

[Text] Facial eczema does not appear to have had the severe carry-over effect on the new season's lambing and calving that was feared.

Livestock in much of the Auckland province is reported to have come through the winter surprisingly well.

Many thousands of animals must have had their livers affected by the damaging eczema toxin during the disease outbreak last summer.

Lambing has certainly been affected with an increasing number of ewes failing to produce lambs in many areas.

The most marked effect has been south of Auckland and through the Waikato and Bay of Plenty.

But senior advisory staff with the Ministry of Agriculture and Fisheries believe lambing percentages will be back only slightly on an average year, perhaps rather more on last year's record season.

While a few farmers in the worst eczema spots may have a substantial reduction in lambing percentage, the ministry says overall the effect has been far less drastic than was expected.

In Northland the lambing season is generally thought to have been no worse than average.

That is not to say that some farmers have had much more trouble from the disease than others. There have been isolated reports of farmers having several hundred animals succumb during the winter, having been weakened by the disease.

But there is also a belief that the livers in many animals have regenerated better than expected possibly because few of them have suffered exzema damage to any great extent in previous years.

The comparative lull in facial eczema outbreaks for a number of years before last summer is said to have meant unpleasant surprises for sheep men and dairy farmers in different ways.

Last summer sheep farmers found the eczema spores turning up in dangerous concentrations on areas of their farms which had been relatively safe in previous outbreaks.

Many of the dairy men caught are thought to have been sharemilkers without a memory of a previous outbreak on the property they are now farming.

About one-quarter of dairy farms in South Auckland and the Waikato are said to be worked by sharemilkers.

This area suffered worse from the outbreak than Northland, as drier conditions meant less feed and animals eating down into the main spore concentrations lower in the pasture.

CSO: 5400/9066

# FISH OFF WEST COAST POISONED BY UNKNOWN SOURCE

Stockholm DAGENS NYHETER in Swedish 3 Oct 81 p 23

[Article by Peter Sandberg]

[Text] Goteborg, 2 Oct--Dead fish from Gullholmen up to Stromstad along the west coast. Trawlers picking up dead garpike in their nets far out to sea. Three hours off the Vader Islands, a brown sea of algae.

Mussel harvesting along the coast has been halted. Musselina, Inc. of Bovallstrand will be laying off five people next week.

On Monday scientists from the Kristineberg marine biological station went out to collect samples.

"There are a lot of dead fish and other dead animal life on the bottom. Some animals are obviously sick while others are unaffected. Clearly the damage at sea is worse than one can see on the surface," said Tomas Lundelv, Kristineberg research scientist.

The tests on the samples had not been completed by Friday afternoon but those that had been done did not indicate lack of oxygen.

The conclusion from this would be that the fish were harmed by poisons released by algae.

Researchers from the Go laboratory found a thick "algae soup" down to a depth of 30 meters on Friday which is unusual.

## Depth Visibility 2-3 Meters

"The depth visibility was no more than 2-3 meters. Ordinarily it would be at least 10 meters. The algae is so thick that when we try to strain it out the strainer clogs up and the water can't pass through. We have not been able to analyze the precise composition of the algae mass, but we know it contains a lot of Gyrodinium aureole, an algae that has been linked to fish kills in Norway," said Bertil Rex of Tjarno.

According to the latest research material, some of it not yet published, these algae are not poisonous to mussels or people. They do attack fish gills. That is probably what is killing the fish along the coast.

In Norway the situation is even worse. In Oslofjord many fish have died and along the entire southern coast of Norway thousands of tons of rainbow salmon were stricken during spawning.

They have also had problems with fish hatches along the Bohus coast but not to the same extent as in Norway.

Harvesting and processing of mussels and oysters have been halted all along the coast. For Musselina, Inc. of Bovallstrand this means that five people will be laid off starting Monday.

#### Two-Week Halt

"We figure we'll have to stop for a week or two before it's quite safe again," said Andrej Brud of Musselina.

Mussel producers are solidly behind this step, however. It is better to stop harvesting than risk anyone's health.

"I hope this will sound the alarm so we are granted permission to make tests regularly."

On Friday signs were found that the algae growth was declining and that the mass of algae was headed away from the coasts. But these changes occur very gradually in the prevailing weather conditions.

6578

CSO: 5400/2010

## FIRST OUTBREAK OF AUJESKY DISEASE IN VIETNAM REPORTED

Hanoi KHOA HOC VA KY THUAT NONG NGHIEP in Vietnamese No 2, Feb 81 pp 105, 107

[Article by Nguyen Dang Nhung and Nguyen Huy Tan, Central Trung Bo Animal Epidemiologic Veterinary Station: "Outbreak of Aujeszky Disease at Dai Phuoc Pig Farm (Dia Loc, Quang Nam-Da Nang)"]

[Excerpts] Evolution of the Epidemic--The pig farm of Dai Phuoc 1 Cooperative (in the village of Dai Phuoc, district of Dai Loc, province of Quang Nam-Da Nang) was set up at the end of 1978 with an initial herd of 32 reserve-herd sows and two breeding hogs brought in from Dong Nai and Hanoi. By the end of 1979, the herd gave birth to the first litters and grew normally. On September 8, 1980, however, a sow experienced a second month-miscarriage.

On September 9, 1980, a number of little pigs developed onset of illness with nervous system disorders, convulsions and high fever. This phenomenon appeared in three herds of suckling pigs under 20 days old. The above symptoms persisted until September 19, 1980, when all suckling pigs died. The mortality rate of these diseased little pigs was 100 percent. Treatment of diseased little pigs with antibiotics, tonics and anti-convulsive drugs was not successful.

Discussion and Suggestions--Aujeszky disease was discovered for the first time in the province of Quang Nam-Da Nang in particular and the provinces of Central Trung Bo in general. The disease caused great damage, especially to herds of little pigs, and threatened to destroy many breeding hog installations in the region. But in our country there now are neither vaccines to prevent Aujeszky disease, nor special drugs to treat it. Since Aujeszky disease has never occurred in our country before, our veterinary law has not provided for measures to handle animal husbandry installations affected by that disease. On these grounds, we suggest that:

1. Measures designed to address and interfere whenever Aujeszky disease breaks out be added to the veterinary law of the Socialist Republic of Vietnam, and
2. The Veterinary Institute conduct early research into a vaccine to prevent Aujeszky disease and promptly put it into production.

(Paper received on 28 October 1980)

9213

CSO: 5400/4512

U.S. VACCINE TO WIPE OUT NATIONAL INCIDENCE OF FOOT-AND-MOUTH DISEASE

Lusaka TIMES OF ZAMBIA in English 21 Oct 81 p 2

[Text]

A MEAT boom is expected in the country after the discovery of a wonder vaccine by the Americans which will completely wipe out the foot-and-mouth disease.

Biochemists at the United States Department of Agriculture have made a scientific breakthrough which is expected to increase beef production not only in Zambia but throughout the world.

According to the latest edition of "Impact" magazine, released by the American embassy in Lusaka recently, through a medium of genetic engineering called gene-splicing, the biochemists have produced a vaccine which may lead to the elimination of all types of foot-and-mouth disease.

### To save

The report says that this contagious disease affects about 30 species of animals worldwide and is sometimes fatal to animals such as cattle, sheep and pigs.

The new vaccine is expected to save thousands of Kwacha and increase meat output in Zambia.

There is no foot-and-mouth disease in the United States since the government there prohibits meat imports from countries where it exists.

Unlike its predecessors which are made out of whole dead viruses, the new vaccine comprises a single protein called VP3 taken from the surface of the virus and is the element that activates the disease-fighting system of the animal.

Although the new vaccine protects against only one strain of foot-and-mouth disease, it can serve as the prototype for inoculations against others.

Zambia has been plagued by the foot-and-mouth disease for a long time and it has adversely contributed to the low meat output.

The Cold Storage Board of Zambia has had to stop buying cattle from the Southern Province for a long period because of outbreaks of the disease.

In Livingstone and Kalomo, there has occasionally been restrictions on cattle and other livestock movements because of the disease.

The outbreak of the disease in the past had even caused the two areas to stop organising district agricultural shows for fear that livestock from there would spread the disease to others.

## BRIEFS

**PARVO-VIRUS**--Parvo-virus among dogs in the Salisbury area is on the increase, a spokesman for the Zimbabwe Veterinary Association, Dr Bruce Fivaz, said yesterday. Dr Fivaz said about 20 percent of the hospitalised dogs died. Appealing to the public to have dogs vaccinated against the disease, Dr Fivaz said the vaccination of dogs last year gave immunity for only 12 months. [Text] [Salisbury THE HERALD in English 7 Oct 81 p 3]

**ANTHRAX HITS DISTRICTS**--Cattle in the Wedza and Chihota districts are being vaccinated against anthrax following an outbreak of the disease which has already hospitalised two people. Following reports of cattle deaths, a team from the Marandellas veterinary department vaccinated 59 939 animals in the Wedza, Chihota, Seke, Swoswe and Mude areas. Two people who had contracted anthrax as a result of eating infected meat were being treated, said an official. The veterinary team recently undertook a mass vaccination campaign against rabies in the same area. [Text] [Salisbury THE HERALD in English 19 Oct 81 p 3]

**RABIES HALTED**--The successful completion of an intensive six-month long anti-rabies and anthrax campaign in Victoria Province was announced last week by the acting senior animal health inspector for the area, Mr David Marillier. The campaign was launched after a widespread outbreak of the diseases which claimed the lives of several people and a number of animals. Mr Marillier said the campaign was run by about 20 health inspectors and orderlies at a cost to the Government of \$7,000. A big factor in the success of the operation had been warning animal owners of the hazards of the diseases ahead of visits by veterinary teams carrying out inoculations, he said. As a result there had been an excellent turnout of cattle as well as pets. The campaign started in Serima district, 80km north of Fort Victoria, and ended at Ndanga, 40km southeast of the town. "Now we're hoping for a breather although we will continue to be on guard," said Mr Marillier. [Text] [Salisbury THE HERALD in English 11 Oct 81 p 4]

**DISEASE TREATY**--Botswana's cattle-producers have called on their government to establish a livestock disease control treaty with Zimbabwe. Producers in the Tswapong area have also appealed for a strengthening of measures to prevent further outbreaks of foot-and-mouth in the area, according to a report in the Daily News of Botswana. Replying to the producers the Botswana Minister of Agriculture, Mr Washington Meswele, said a factory producing 12 million doses of foot-and-mouth vaccine a year would be opened in Gaborone at the end of this month. He told them that the vaccine factory, the largest in Africa, would export the vaccine mainly to neighbouring African states. In 1980, Zimbabwe took 2 048 700 doses of the Botswana vaccine for its cattle. This year, its order for the first six months was just about double that figure. [Text] [Salisbury THE HERALD in English 14 Oct 81 p 3]

# WA SPENDS MILLIONS ANNUALLY IN WAR ON INSECT, MITE PESTS

Perth THE WEST AUSTRALIAN in English 21 Sep 81 p 34

[Article by Michael Zekulich]

[Text]

**WA's agricultural industry loses many millions of dollars a year because of insect and mite pests.**

The sheep blowfly, for example, causes losses estimated at \$75 million a year in Australia—\$15 million in WA.

It remains the single most important problem facing the Australian sheep industry.

The overall agricultural losses continue in spite of efforts to control them.

But, without the control measures, some agricultural industries could not exist today in their present form, according to the Director of Agriculture, Mr E. N. Fitzpatrick.

The department has published a comprehensive report on the "bug war" in the latest issue of the Journal of Agriculture.

It is the first time that this has been done as a single reference publication.

The extensive range of subjects covered include the attack on fruit fly, controlling grasshoppers, managing pests in apple orchards, controlling cotton pests with egg parasites, tackling the lucerne flea and red-legged earth mite and integrating in-

sect control for Ord soya bean production.

## COST

In the foreword of the report, Mr Fitzpatrick said that it cost more than \$6 million a year to control insect and mite pests with chemicals. This expenditure was well justified in terms of animal and crop protection.

Biological control, using natural predators, was just as important, though the work was expensive and progress would depend on funding. At present, insufficient money was being provided on a State or Australian basis.

Mr Fitzpatrick said that, as research work progressed, it became evident that the potential for biological control was far greater than many had imagined.

But it usually required integration with chemicals and other techniques.

"Pesticides will continue to be essential for WA agriculture," he said.

Biological control goes back to before the turn of the century. Then from 1901 to 1910, George Compere, a French Canadian, was contracted to the WA Government and the Californian State Government to travel the world to collect parasites and predators, mainly of horticultural pests.

His journeys took him from China to Brazil, from the Mediterranean to South Africa and the Pacific.

He introduced many unknown "attackers" into WA.

Recently a parasite "hitch-hiker" wasp, *Telenomus rowani* has been introduced in the fight to control the white rice stem-borer moth, *Tryporyza innotata*.

The moth is a serious pest in the Ord rice crops.

But many people are worried that insects introduced to attack others will themselves become problems.

## BRIEFS

**COFFEE PLANTINGS DESTROYED**--In order to prevent the development of centers of infection for contagious diseases affecting coffee trees, the plant health authorities at the Ministry of Agriculture have ordered the total destruction of those plantings which have not received technical aid. This measure is included in an executive decrees signed by President Rodrigo Carazo and the minister of agriculture, which states that the owners and tenants on any type of coffee plantation are under obligation to provide their plantings with technical aid to prevent the development of disease therein. If the plantings have to be destroyed, the plant health norms will be followed, taking as a basis the decision by experts that the coffee plantings are totally abandoned and some center of infection is to be found therein. [Text] [San Jose LA REPUBLICA in Spanish 24 Aug 81 p 2] 5157

**COFFEE RUST COMBATED**--The plant health department at the Ministry of Agriculture and Livestock has agreed to prohibit visits by tourists coming from countries affected by the coffee borer and rust to plantings of and processing facilities for this crop. This step was taken on the basis of the plant health law with a view to eliminating any possible risk of contamination. To this end, the office is prohibiting government institutions and private individuals from promoting or issuing invitations for visits from institutions or technicians of countries which have suffered from either of the two diseases mentioned. In this connection, the director of health, engineer Rodrigo Castro, said that extreme quarantine measures recently had to be taken in Penas Blancas because of the visit of 47 coffee growers from Guatemala. Engineer Castro said that he hopes that the public will excuse the inconvenience this measure may cause, bearing in mind the importance of keeping the country free of two of its greatest enemies, the borer and rust. [Text] [San Jose LA REPUBLICA in Spanish 29 Aug 81 4] 5157

**PROTECTION AGAINST SMUT**--The vice-minister of agriculture, engineer Willie Loria, has announced that the outbreak of sugarcane smut at the Taboga, El Viejo and Catsa plantations in Guanacaste will not cause any serious production problems for us, but he warned the producers to plant new sugarcane stands and to seek the advice of the Ministry of Agriculture technicians in this connection. Loria Martinez said that this is the only way of dealing with the spread of further outbreaks in the zone, which would threaten a part of production if they should occur. He added that the outbreak has not been of importance thus far because disease affects only very young plantings, and this has not been the case. However, it is necessary to substitute other more resistant varieties for the vulnerable ones in order to avoid future problems. This official added that the destruction of the plantings will not be undertaken because the best and cheapest technique in this case is replacing the plantings. However, he warned of the need to make a rapid change in the plantings where this is deemed necessary before the contagion spreads to there too. [Text] [San Jose LA REPUBLICA in Spanish 24 Aug p 2] 5157

## BRIEFS

**KILLER BEES**--Fourteen domestic animals--eight sheep and six goats--were stung to death when a swarm of bees invaded Avernorpeme, a town in the Volta Region. Four persons who were also seriously stung by the bees had to be given medical treatment. During the two-hour siege the town folks who had earlier gathered for their annual traditional cleanup broke up in confusion while the bees chased them in all directions. Bees are common in that area during this time of the year when they gather nectar for honey. A spokesman for the organizers of the cleanup exercise told newsmen that when the people assembled to receive the high priest Togbi Dzolishi and his retinue, the bees suddenly appeared, buzzed and stung. Togbi Dzolishi said: "It is wrong to attribute the attack to any evil omen since bees are common here during this season."--GNA [Text] [Accra DAILY GRAPHIC in English 2 Oct 81 p 1]

CSO: 5400/5634

## BRIEFS

INSECT PLAGUE--According to the monthly bulletin published by the department in charge of food security, the prospects for a good agricultural year continue to be satisfactory despite the fact that beginning in August, dry land cultures were the target of insect attacks. Since the beginning of August, large breeding areas of grasshoppers were found in the regions north of Bafata and Gabu and especially along the border with Senegal (Fadjongquito, Tendito, Sara-Bacar and Sonaco). Plants most affected in these areas were corn and sorghum. The incidence of grasshoppers was also noted in Bolama and insects sporadically attacked rice fields in certain islands in the Bijagos, a fact that was noticed as early as last July. In the third agricultural zone, particularly in Tombali, various insects attacked the rice fields. Among the insects that caused the most damage were the "*diopsi thoracica*," the "*sesamia* sp.," the "*maliarpha separatella*" and the "*diacrisia scortilla*." As a result, the operations of transplanting the rice seedlings were somewhat delayed since farmers had to resort to the use of pesticides provided by the department of rural development. [Excerpt] [Bissau NO PINTCHA in Portuguese 23 Sep 81 p 8]

CSO: 5400/5627

## MAURITIUS

### EFFORT TO STEM CANE DISEASE REPORTED

Port Louis THE NATION in French 25 Aug 81 pp 1,4

[Report: "The MSIRI Concerned by the Growth of Gummosis"]

[Text] The situation concerning the growth of gummosis is not considered alarming but remains a concern, J. Dupont de Rivaltz from St Antoine and Drs Ricaud and Autrey stated frankly to the press yesterday morning. The Sugar Industry Research Institute (MSIRI), therefore, would like to alert the growers through reports, regional conferences and a television talk. It has already issued some recommendations, the principal among which are the following:

- I. The variety M377/56 must not be replanted but eliminated quickly;
- II. The plants in the severely affected hotbeds must be pulled out immediately;
- III. Remnants of the M377/56 in newly planted fields must be eliminated (particularly in fields with M124/59, M574/62, M94/63 and N2173/63);
- IV. Knives, pruning bills and blades of harvesters must be disinfected;
- V. M124/59, M574/62, M1227/62 and M94/63 must not be planted until August 1982;
- VI. M93/48, M666/60 and M2173/63 must not be planted in the infected areas of M377/56 and in areas susceptible to the development of gummosis, such as mountain slopes.

#### Definite Indications

Recent studies of sugar cane fields in various parts of the island indicate that gummosis remains virulent. It is even affecting some varieties so far considered resistant. No less than 1,527 diseased areas have been identified in the 2,204 surveyed fields. Weather conditions somewhat favored the growth of this bacterial cane disease: in 1981 we had four cyclones: "Florine," "Heliette," "Johanne" and "Lisa," after five cyclones in 1980. The philosophy of the winds, therefore, contributed to the dissemination of this disease.

However, starting with last year the MSIRI has carried out several research projects, as follows: a. studies of new methods for testing the reaction of the various varieties and for identifying the new bacterial stems; b. therapeutic treatment of infected cuttings with aerated steam; c. serological studies in laboratories.

The studies are being continued and very interesting results have been obtained.

In the light of the studies, the conclusion of the MSIRI is that in M377/56 gummosis has reached the point of no return. This variety is acting as a dangerous source for dissemination and contamination of other varieties. Dissemination by air will be paralleled inevitably by dissemination with knives and bills.

It is equally the opinion of the MSIRI that varietal recommendations are no longer applicable and must be adjusted in accordance with the new data.

#### Possible Development

According to the MSIRI, the development of gummosis over the next few years will be determined largely by the existence of the M377/56.

Three situations are therefore possible:

1. Assuming that this variety is removed very slowly, it is likely that by 1985 the new varieties will be infected to the epidemic level;
2. A faster elimination of the variety will most likely reduce the contamination of the new varieties;
3. If the affected variety is removed wherever it is found, the contaminations of the new varieties will be negligible and, with the help of proper sanitation measures, the infection could be blocked.

The purpose of the MSIRI is to complete the elimination of the bacterial centers by 1983 so that the M377/56 may be reduced to a negligible surface by 1985.

#### Other Statements

The MSIRI has noted that the M93/48 had shown so far only medium-length streaks. This year very long streaks were noted in Medine, which entered the ochrea and, in some cases, the stems had developed a chlorosis typical of the systemic stage of the disease.

The symptoms displayed by the M442/51 are the following: long streaks, gummy sacs, stem deformation and cuts.

The M351/57 shows the symptoms of systematic infection.

The M124/59, which is still resistant, is showing a severe streaking, with long streaks penetrating the ochrea, cuts and abundant exudation.

The M574/62, M94/66 and M2173/63 have also been affected.

In the M124/59, M574/62, M1227/62 and M94/63, the presence of gum inside the stems was noted. Reaction to the disease was confirmed in the other varieties (M31/45, M13/46, M438/59, Triton S17, M356/53 and B51129).

M555/60 seems to behave like the M356/53. However, on two occasions in the eastern and northern parts of the island, it displayed very long streaks.

#### Warning

The MSIRI cannot possibly determine the extent to which gummosis has affected cane yields, for the weather factors are important. It insists, however, that gummosis is caused by a bacterium whose dissemination cannot be controlled and that it is a dynamic disease, for it exists in distinct stems with different virulence. Gummosis has caused severe problems in the past. Should tomorrow's circumstances become favorable for the development of the disease, the situation could worsen further and more severe control measures may have to be taken.

Therefore, the MSIRI asks that its recommendations be taken into consideration in order to reduce the rate of infection to an acceptable level within the shortest possible time.

5157

CSO: 5400/5604

## BRIEFS

**HAWKWEED CONTROL**--The key to low-cost control of Hieracium--known as hawkweed--is likely to be a combination of grassland improvement and seasonal grazing management, according to the annual report of the Department of Scientific and Industrial Research. Since the 1960s there has been extensive infestation of the South Island high country by the weed. Control by herbicides has been only moderately effective and high costs have precluded their extensive use. In a trial over five years, oversowing and topdressing reduced Hieracium from 50 percent to 16 percent of ground cover, with a corresponding increase in carrying capacity from one per hectare to about six. On poorer soils the results have been less successful, though a substantial increase in carrying capacity has been achieved. Though Hieracium may not be completely eliminated by improving the fertility and composition of a pasture, it will be reduced to a level where it is no longer the controlling agent of the management or economics of farming in such areas, the report states. [Text] [Christchurch THE PRESS in English 11 Sep 81 p 15]

**INFECTED FERTILIZER**--Christchurch, Sept 27 (PA)--A twitch-like weed which could have seriously affected New Zealand's grape crops has been found in a shipment of fertiliser from the United States. Bermuda grass was discovered in the fertiliser during a routine inspection of the holds of the ship, Star Capella, while it was berthed in Napier, the senior agricultural quarantine officer in Christchurch, Mr J Lawrence said. While the ship was berthed at Lyttelton from Thursday to Saturday stringent precautions were taken to ensure the weed did not spread to the land. Trucks with tarpaulins carried the infected fertiliser direct to the Ravensdown Fertiliser cooperative in Hornby. At the works the fertiliser was unloaded into a hopper where it was treated with sulphuric acid. This destroyed the growing Bermuda grass. Mr Lawrence said the weed was a host to virus disease. It affected grape crops. [Text] [Wellington THE EVENING POST in English 28 Sep 81 p 7]

CSO: 3400/9067

## HYLOBIUS BEETLE MOST DESTRUCTIVE FOREST PEST

Stockholm DAGENS NYHETER in Swedish 8 Oct 81 p 30

[Article by Thomas Michelsen]

[Text] Sweden's costliest insect chews up pine and spruce plants worth 300 million kronor a year. But it was man who spread the table for the hylobius beetle by clearing large areas.

The hylobius beetle may be Sweden's costliest insect. The last pest against which DDT was used--several years after DDT had become notorious and was banned for all other uses.

An insect that eats up young pines and spruces at a cost of millions each year. In appearance an insignificant brownish-black, somewhat speckled beetle about a centimeter in length with a head elongated into a proboscis or "snout."

The hylobius beetle has always existed in Swedish forests, spread evenly from south to north. It was modern forestry that turned the hylobius beetle into a dangerous pest.

Actually it was man who spread the table for the hylobius beetle. This happened in the early 1950's or in some parts of the country in the late 1940's when forestry went over to what is known as "regional clearing" or clean cutting, in everyday Swedish.

The hylobius beetle is fairly long-lived for an insect, living several years. It can also fly unusually long distances for a beetle, several miles. To survive as a species it needed both its long life and its extensive flying ability.

### Recently Downed Trees

The beetles depend on conifers that have died recently for reproduction. And trees and roots that have died recently are not that common in a natural forest. Or in the forests we had in Sweden before the 1950's. Therefore the hylobius beetle often had to fly long distances before sniffing out a suitable stump or root in which to lay its eggs.

The larvae live a long time, up to 2 or 3 years, in the dead stumps or roots. But when they crawl out on the ground as mature beetles they are hungry for conifer bark. They eat the bark of young seedlings as well as on the twigs and branches of full-grown trees.

Larger trees don't suffer much damage from having a little bark gnawed off by hylobius beetles. But the beetles can seriously damage or kill young trees.

Modern clean cutting suddenly provided the beetles with plenty of stumps. And close by new seedlings were served up for the beetles to eat. There the egg-laying beetles could feed between egg-laying and mating and there the newly-hatched young beetles could find food right away.

The next step in modern forest cultivation, stump removal, did not prove to be the hoped-for radical method of combatting the hylobius beetle. And the beetles can detect roots under the ground by smell and burrow down and lay their eggs there.

In addition the newly-cut stumps are usually allowed to lie in the clearing to dry before they are taken to factories. During this time the beetle larvae in the stumps often have time to reach maturity and fly out.

#### DDT Solution

Up to 1975 DDT was used in forestry to combat the hylobius beetle. Pine and spruce seedlings were dipped in DDT before they were set out in the clearings.

That is a method many people in the forestry branch would like to return to.

After the DDT ban the Forestry Agency made a study of the hylobius beetle which is estimated to cause forestry losses of 1.5 billion kronor a year. It was the abandoned underbrush the beetles ate. Lumbering operations would have to be reduced by 1.8 million cubic meters a year from [figure illegible] million cubic meters.

This would cost 6000 jobs in the forestry branch.

The figures in the study have been criticized. And since then lumbering in this country has declined to around 60 million cubic meters for reasons entirely unrelated to the hylobius beetle.

#### One Seedling in Three

But new estimates suggest that the beetles cause damage amounting to 200-300 million a year today. The damage varies sharply in different parts of the country. Norrland has been relatively spared. It is worst in southeastern Sweden. There the hylobius beetle kills an average of 30 percent of the seedlings in new plantations during the first year.

That is, if nothing is done to prevent the damage.

But actually there are a number of methods that can be used to combat the hylobius beetle although not all of them are used in practice.

As we mentioned the beetles can fly long distances in search of fresh stumps. But when it eats it comes down on the ground. There it can be checked by a new kind of plastic collar, a cone pressed around the base of the seedling when it is set out.

A frequently-recommended way of combatting beetle damage is soil preparation. The top layer of dirt is removed in strips or patches where the plants are to be set out. The beetles don't usually venture onto the bare unplanted ground around the young trees. They have "agoraphobia" and don't like the sharp direct light.

Another method is to leave the clearing unplanted for several years so that the stumps are no longer as temptingly fresh and attractive to the hylobius beetle. This is called fallow cultivation. But the big drawback with this method is that during the waiting period other competitive vegetation grows up, especially in fertile clearings. This means the seedlings won't get off to such a good start. In addition several years of growth are lost in the clearing.

Perhaps the best way of eliminating beetle damage is to sow seeds instead of setting out plants in the new forest. In the 1950's 20 percent of cultivated forest areas were still being sown, now this applies to only 1 or 2 percent. Even if one allows the forest to sow itself, by leaving cone-bearing trees behind in the clearing, not many beetles appear.

Another way of reducing the hylobius beetle risk is to set out more seedlings when planting is done. If some are damaged the total effect is not as bad.

Chemical pesticides that replaced DDT have also been used against the hylobius beetle. But those who plant the forests often dislike handling plants dipped in insecticides.

Research is being conducted in Umea on a kind of biological method of fighting the beetles--they are setting out a small grub, a nematode, that attacks the beetle. At the agricultural university's entomological institution in Ultuna researchers have less faith in this method. Instead they are studying scents that attract the beetles.

In the long run this research could produce a method of combatting the beetles that resembles the scent traps used to trap bark borers. But now this research is just getting off the ground, according to Goran Nordlander who is heading the project in Ultuna.

6578

CSO: 3400/2010

## TANZANIA

### BRIEFS

GRAIN BORER DAMAGE--A pest which attacks stored maize and was thought to be confined to the American continent is now in Africa and British experts have warned Zambia that it might spread to this country. Experts from Britain's Tropical Products Institute (TPI) have already submitted recommendations on the control of the pest--*prostephanus truncatus*--to authorities at Tabora in Tanzania. A report from the London Press Service released through the British high commission in Lusaka says that in Tanzania the TPI staff found that the pest, also called the greater grain borer, was found to have damaged more than 30 percent of maize cobs after five months storage. The maize were too badly damaged to be used for food and other stored products, including cassava and groundnuts, can also be affected. [Text] [Lusaka TIMES OF ZAMBIA in English 21 Oct 81 p 2]

CSO: 5400/5635

# FINNS FIND MORE COLORADO BEETLES IN RETURNED RAIL CARS

Helsinki HELSINGIN SANOMAT in Finnish 26 Sep p 9

[Text] Some 20 live colorado beetles have been found in Soviet rail cars at the Kauhajoki station.

The rail cars came empty to Kauhajoki, and they were going to be loaded with furniture. The loaders were cleaning the dirt from the cars that previously had carried a load of potatoes. Some 20 live, about 7 to 20 millimeters long yellow beetles with black stripes were found in one car, and a few dead beetles in the other.

The cars were first swept and cleaned and then the rubbish was burned with oil. Both the car and the surrounding area were treated with 200°C steam.

## A Small Band Capable of Devastating a Large Potato Field

The colorado beetle is about 7 to 12 millimeters long, and it lays its orange-colored eggs on the back side of the potato leaves. The beetles are voracious: one band will quickly devour even a large potato field of all the leaves.

The colorado beetle came to Europe from North America in boats. It first infested France. Since 1922, it has been as steady pest in Europe. It now has spread into all Central European countries and the Soviet Union.

The Nordic countries of Finland, Sweden and Norway have been relatively spared these beetles.

In Finland, the first colorado beetles were detected in 1973. They came into the country in a shipment of Bulgarian spring potatoes. Since then, clusters of them have been found a few times in Soviet and Polish imports of potatoes.

## Even Winds Bring Beetles

The beetles can be carried by winds. A few years ago, colorado beetles were brought in winds to southern Sweden. The Southern Ostrobothnia Agricultural Center has stated that it is possible that since the colorado beetle has spread all the way to Estonia, the theoretical danger exists that it might come to Finland by winds.

The Agricultural Research Center in Tikkurila has studied the ability of the colorado beetle to withstand the rough Finnish winter. Most commonly, the beetles die during the winter. However, a few individuals were able to live through the winter in compact layers of sandy clay.

#### Loaders Given Directions about Pests

About a month ago, all loading stations of the State Railways in Ostrobothnia were delivered direction brochures which included detailed pictures of all pests the loaders have to watch for when cleaning the rail cars.

The brochure also gives detailed extermination procedures and directives on where to go to for help in eradicating pests found.

9571

CSO: 5400/2003

## EXTERMINATE RICE PESTS IN HA NAM NINH, RODENTS IN HAIPHONG

Hanoi NHAN DAN in Vietnamese 17 Sep 81 p 1

[Article: "Exterminate Pests, Conserve Water and Prevent Drought for 10th-Month Rice"]

[Text] Ha Nam Ninh Province still has nearly 50,000 hectares of rice (more than one-third of the 10th-month rice area) damaged by pests and brown leafhoppers—including 20,000 hectares of 10th-month rice of NN-22 strain infested with leaf rollers. Following inspection and assessment of the age of harmful insects, the cooperatives have taken concrete extermination measures. In early transplanted areas where rice was in boot, making it impossible to use insecticides, the cooperatives have mobilized families of all members to go to the fields, using their hands to capture insects or prune leaf stubs containing nests of leaf rollers. In other areas where rice buds were being split, the cooperatives guided members to learn the highly effective experiences of Hai Hau District in using bamboo stumps to sweep lightly over riceplant tops so as to break up leaf roller nests, preparing the way for insecticidal spraying by plant protection units. In the key rice producing districts of Hai Hau, Xuan Thuy, Nam Ninh, Nghia Hung and Kim Son, where rice is of good quality, the area infested with leaf rollers is larger, with 500 to 800 insects per square meter. There, the cooperatives have distributed insecticides to members' families with instructions to mix them with powdered soil, to apply the mixture to the fields during the early morning hours when riceplant leaves are still wet with dew, and to take the precaution of wearing raincoats and masks so as to avoid noxious contamination.

Areas infested with brown leafhoppers have shrunk following the concentrated campaign to use all forms of extermination; but recently many pockets of pests have reappeared. Some areas in the cooperatives of Truc Dai, Truc Cuong, Truc Hung, Truc Thai (Hai Hau), Nam Binh, Nam Minh (Nam Ninh), and Nghia Dong (Nghia Hung) were partly infested with pests. The district has supplied these cooperatives with Bassa, a special insecticide, to exterminate pests on the spot and to prevent them from expanding to other rice areas.

The cooperatives have also taken care to conserve enough water in prevention against an end-of-season drought, enabling rice to boot and head. More than 30,000 hectares of rice transplanted in low-lying areas need water; irrigation corporations in each

area have pumped water into irrigation canals to permit cooperative members to install connections for bailing out water to the fields, thus helping riceplants to boot and head and contributing to exterminating pests as well.

Nearly 30 percent of the 10th-month rice area in Haiphong is being affected by brown leafhoppers. A number of early ripened ricefields are also being damaged by rodents.

The Haiphong Municipal VCP Committee and People's Committee have firmly guided the districts to carry out a number of measures designed to save the 10th-month rice. Some 178 tons of insecticide and many spraying tanks were urgently sent into the cooperatives. Chemical fertilizer was also sent--and in quantities larger than those during previous seasons. A number of college students sent down by the Ministry of Agriculture are earnestly helping cooperatives and members spray insecticide and exterminate pests. In addition to inspecting the fields and inundating them with water to kill insect eggs, cooperative members in Do Son District have also carried out related measures to exterminate insect eggs, such as applying sand mixed with insecticide. In a number of cooperatives affected by rodents such as Dong Phuong, Dia Dong and Hoang Nghia, members placed shells of *Grapsus nankin* previously imbibed with raticide in spots where rodents used to gnaw riceplants. In just one week, cooperatives in Do Son District have killed tens of thousands of rats. The Youth Union in Vinh Bao District has mobilized its members to act as an assault force in exterminating rodents and pests so as to save the 10th-month rice.

9213

CSO: 5400/4514

ZAIRE

BRIEFS

ZAIRE'S PESTICIDE NEEDS--A study by the CGEA [General Atomic Energy Commission] estimates Zaire's monthly pesticide requirements at 6,000 tons. This need can be met either through local production or through imports. The study defines pesticides as substances or preparations which increase agricultural yields and protect crops against their enemies. They are used against the animal and vegetable parasites which attack crops. According to the study, the Kivu and Kinshasa regions, because of their potential for industrial crops, constitute a favorable environment for the building of pesticide plants. The production of these substances, the document says, requires substantial raw materials locally available and adequate financial resources. There are three kinds of pesticides: insecticides (which kill insects), fungicides (substances which destroy parasitic fungus growth), and herbicides (products which destroy weeds). [Text] [Kinshasa ELIMA in French 29-30 Aug 81 p 3] 5157

CSO: 5400

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# Worldwide Report

EPIDEMIOLOGY

No. 253



FOREIGN BROADCAST INFORMATION SERVICE

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3 November 1981

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## EPIDEMIOLOGY

No. 253

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GUYANA, BRAZIL TO COOPERATE AGAINST DISEASES

FL122109 Bridgetown CANA in English 1719 GMT 11 Oct 81

[Text] Georgetown, Guyana, 11 Oct (CANA)--Brazil and Guyana have pledged to strengthen cooperation in their fight against malaria, yellow fever and chagas (a form of sleeping sickness)--three tropical diseases relatively prevalent on the adjoining borders of the two South American republics.

The government-owned CHRONICLE newspaper said the two countries had decided, during two days of discussions in Georgetown, to exchange information to tighten surveillance. They were seen as initial steps in what is likely to lead to a comprehensive program on disease control and eradication.

Brazil was represented at the talks by Dr Marcos Antonio Soares Porto while Guyana's representative was Chief Medical Officer Dr Walter Chin.

The CHRONICLE said the two specialists met under a sanitary agreement on tropical diseases signed between Brazil and Guyana in Brasilia last June. Both countries have an interest in malaria in particular since they both shared the Roraima border, an area in which the disease was found.

Brazil and Guyana discussed plans to monitor flights between their two countries in a further effort to prevent malaria from being transmitted from one country to the other. The two specialists also discussed the possibilities of exchanging technical medical personnel and developing contacts in other areas in the medical field. On the question of chagas, the two countries have agreed to mount a serological survey on the prevalence of this disease in their territories.

CSO: 5400/2016

## AUSTRALIA

### BRIEFS

**WHOOPING COUGH THREAT**--An outbreak of whooping cough, reported in 50 people at Charleville, is being treated seriously by the State Health Department. The Health Minister, Mr Austin, said the outbreak underlined the need for all parents to ensure their children were immunised. The Charleville General Hospital medical superintendent, Dr Malcolm Scarr, said yesterday that three baby victims of the "small epidemic" had required treatment at major state hospitals. Mr Austin said two seriously ill children had been flown to Brisbane for treatment. Dr Scarr said that the whooping cough outbreak had prompted a significant number of townspeople to have their children immunised. The Health Department is carrying out tests to establish the infection which has peaked in Charleville over the last two months. Whooping cough is considered dangerous to children under 12 months. Mr Austin said it was sometimes fatal and could lead to permanent respiratory trouble. It was important that babies be immunised. The "triple antigen" injection recommended for babies offered some protection against whooping cough, diphtheria and tetanus. The Charleville outbreak included adults as well as children. Dr Scarr said that although immunisation of small children was not complete protection against whooping cough, it reduced the seriousness of any infection. [Text] [Brisbane: THE COURIER-MAIL in English 18 Sep 81 p 7]

**NSW MEASLES EPIDEMIC**--NSW is in the grip of a measles epidemic and the Health Commission has advised all parents to ensure their children are immunised. The commission believes only 90 percent of children in the State are immunised. Dr Allan Crawford, the State Director of Public Health, said yesterday people did not seem to realise how serious the risks were and tended to be blasé about immunisation. The disease is highly contagious and with schools having started again this week there is a much greater risk of it spreading. Hundreds of cases have been reported in NSW but because it is not a notifiable disease, exact numbers cannot be obtained. [Excerpt] [Sydney: THE SYDNEY MORNING HERALD in English 19 Sep 81 p 1]

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## BRIEFS

**INSTITUTE UNAWARE OF ACTION**--The Adolfo Lutz Institute is unaware of strict measures being taken on the federal level to prevent an epidemic of dengue hemorrhagic fever--with 342 cases reported in Cuba up to 9 September--from arriving in Brazil. In this regard, no official notification was directed to the institute which, through the press, is following the interest of the Ministry of Health in taking precautionary measures, according to a comment made yesterday by laboratory technician Dulce Maria de Souza. Since the country has no vaccine against this disease, the institute's department which studies viruses transmitted by arthropods (insects) has not altered its work routine, although the risk of an epidemic is not totally remote. "An epidemic of encephalitis," Dulce Maria recalls, "entered Brazil in 1975. Before this time, we had never worried about that possibility." The *Aedes aegypti*, mosquito, which transmits dengue, also transmits urban yellow fever; it breeds in stagnant pools and forests, and its eradication is under the direct responsibility of SUCAM (Superintendency for Public Health Campaigns). To carry out a special plan aimed at intensifying the eradication of that mosquito, the Ministry of Health has requested extra-budgetary funds from the Secretariat of Planning. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 24 Sep 81 p 16] 8568

**MENINGITIS DISCOVERED IN SCHOOL**--After the discovery of two cases of meningitis--one fatal--at the El Salvador Republic Municipal School in Piedade, about 100 mothers of pupils met yesterday with Oswaldo Saba, director of the Engenho de Dentro Health Station, to demand the vaccination of their children against the disease and the distribution of the antibiotic, Menomax, which costs 600 cruzeiros for a bottle with eight tablets. The disease was discovered this week with the death of a school maid, Maria Gomes de Abreu, aged 69, and the admission of a student, Marcelo Cardoso Santos, aged 13, to Sao Sebastiao Hospital with meningococcal meningitis. Raimundo Moreira, municipal secretary of health, gave his assurance that the two cases were not connected. The school's directorate and employees refused to give any information. The director of the Engenho de Dentro Health Station excluded the possibility of an outbreak of meningococcal meningitis and stated that "soon everything will be normal." Meanwhile, at least 80 percent of the school's 900 pupils failed to show up for classes yesterday. Most of them reside in a housing complex near the school--which is at Rua Almeida Nogueira 85--where Marcello also resides. Marcelo's father, Hermes dos Santos, said he does not know if his son contracted the disease at the school. He said that the child had a high fever and was vomiting and, upon being admitted to the hospital, was diagnosed by the doctors as having meningitis. [Text] [Rio de Janeiro O GLOBO in Portuguese 25 Sep 81 p 13] 8568

MACAE HEPATITIS EPIDEMIC DENIED--Eloadir Pereira da Rocha, director of the General Department of Epidemiology and Disease Control, of the State Secretariat of Health, said yesterday that oral reports by physicians of an increase in hepatitis cases in Macae are not sufficient to establish the existence of an epidemic. The statement refers to recent reports by physicians Marcelino Carlos Pereira da Silva and Germano Ribeiro de Castro of seeing 200 hepatitis cases in Quissama, Fourth District of Macae. According to Pereira da Rocha, the written reports from physicians to the secretariat (compulsory notification) likewise do not add up to a hepatitis epidemic in Quissama. Da Rocha met day before yesterday with Cesar Augusto Sabino de Azevedo, health coordinator for the Lower Coast ["Baixadas Litoraneas"], who reported that he had already asked CEDAE to analyze the quality of the water consumed by the inhabitants of Quissama. There are no basic health infrastructures there, and the inhabitants use water from artesian wells, which could be disease foci, according to the secretariat. Technicians of the General Department of Epidemiology and Disease Control and of the State Institute of Public Health will go to Quissama today to begin an epidemiological survey of the area. Until the survey is completed, the secretariat is recommending that the residents of Quissama filter and boil their drinking water, avoid bathing in streams and lakes, and go to the local health station at the first sign of the disease (vomiting, headache and diarrhea). [Text] [Rio de Janeiro O GLOBO in Portuguese 30 Sep 81 p 13] 6362

CSO: 5400/2007

CHILE

BRIEFS

**MENINGITIS OUTBREAK--Temuco--**Eleven meningitis cases, of which two died, occurred during the month of September in this city. [Santiago Chile LA TERCEKA DE LA HORA in Spanish 2 Oct 81 p 5]

**INFECTIOUS HEPATITIS, TYPHUS--**It has been reported that there is a growing occurrence of infectious hepatitis and typhus in Chile. On the one hand deaths from infectious and parasitic causes decreased from 4,096 in 1976 to 3,179 in 1980. However, the incidence of typhoid fever increased from 5,344 cases in 1970 to 6,110 cases in 1975 and 13,114 cases in 1978. [Santiago Chile EL MERCURIO in Spanish 21 Sep 81 p B1]

CSO: 5400/2011

## CAMPAIGN AGAINST DENGUE FEVER IN SANCTI SPIRITUS, HAVANA, MATANZAS DESCRIBED

Havana BOHEMIA in Spanish 28 Aug 81 pp 50-55

[Text] Sancti Spiritus

During its trip from the city of Cienfuegos to the neighboring province of Sancti Spiritus, with an area of 6,736 square km and a population of 407,000, our group of journalists, representing various mass media, made a wide variety of contacts. The provinces of Cienfuegos and Villa Clara impressed us profoundly for two reasons: first, because of the high number of reported serious cases of this dangerous disease, and second, because of the methods used to combat it efficiently.

By last Thursday, 20 August, those days and nights of unceasing struggle against the furious onslaught of the disease were already in the past, and the last hospitals we visited in Villa Clara and Cienfuegos were gradually returning to their routine activities. However, weariness and fatigue continued to be reflected in the faces of the doctors and nurses, laboratory workers and health personnel, like an ineradicable imprint of the bitter struggle against dengue fever.

We expected that the picture we would find farther on, in the next province, Sancti Spiritus, would be characterized by urgent aspects.

How surprised we were, however, when we met with the members of the provincial operational group, sponsored and directed by the party, to learn that the province of Sancti Spiritus, divided into eight municipalities, was among the regions in the country with the lowest indices of inhabitants affected by the epidemic. Later on we saw evidence of this encouraging and reviving reality in the course of a tiring pilgrimage to the health installations of its municipalities.

The lens of our photographer recorded scenes of smiling children who had recently regained their health thanks to the self-sacrificing efforts of the doctors and nurses, laboratory workers and medical students, and finally, the inestimable collaboration of other workers, not to overlook the important role played in this entire exhausting battle by our mass organizations and bodies.

We also saw hospital ward scenes where there were only two or three patients eagerly awaiting their hospital release.

"In past weeks," a young nurse told us, "this very ward was packed with patients, some of them very sick, almost on the edge of death...."

What made it possible to save these lives?

Dr Guillermo Mojena Machin, provincial public health director for Sancti Spiritus, gave us the answer to this question.

He explained to us that as soon as news of the first cases reporting in the city of Havana was received, the comrades in the provincial subdivision for health and epidemiology and the epidemiologists launched their in-depth studies, and on establishing that they were faced with hemorrhagic dengue in the country, they immediately began work designed to prevent the spread of this terrible disease in Sancti Spiritus.

[Question] When did you learn about the first cases of this disease?

Dr Mojena responded that it was about the first of June. He went on to add:

"In view of this fact, orders were given at a meeting held for the purpose on 2 June with the municipal health directors, to immediately undertake the task of applying Abate to eliminate the mosquito larvae.

"We must admit that in those days we did not have insecticides and other equipment such as shoulder packs and motorized carriers for the spraying, but we did have enough Abate to undertake the task."

[Question] What personnel were available for this task?

[Answer] We had limited public health personnel but we had the immediate support of the national organizations, above all the Federation of Cuban Women and the Committees for the Defense of the Revolution. Without this support in the first stage, we would not have been able to distribute Abate throughout the province in the first half of the month of June, which was the goal we sought at that time.

[Question] How did you obtain the insecticide?

[Answer] Through the Ministry of Agriculture. When the situation was explained to the comrades in this important branch of our economy, they made the research they had available to the health sector, and provided us on a loan basis with a number of shoulder packs, motorized carriers and insecticide products. Also the comrades of the southern rice growing area supplied us with sufficient quantities of insecticides to be able to begin spraying the province with the aid of other state bodies.

By the first week of June, we already had in practice a functional command post.

[Question] At that time, the structure created later when the epidemic spread throughout the country had not been established nationally, had it?

[Answer] That is true. We had to hurry to gain ground on the epidemic, on the basis of our analysis and evaluation with the comrades in the present provincial operational group.

Thanks to this effort, by the third week of June we had succeeded in providing 100 percent of the homes with Abate and spraying 116 percent of the housing units.

To this speedy action we must also add the concern and support we were given from the very first moments by farm spraying units, since in our province we have an aviation base. The comrades contributed their equipment and their experience in this type of work and we also succeeded in completing the aerial spraying flights over the province quickly.

To summarize, we did good work with the Abate and also a campaign was waged against the adult *Aedes aegypti* mosquitos which might be in circulation. Without a doubt, by the end of June a substantial physical reduction in the number of mosquitos could be seen in the province.

[Question] Tell me, Doctor, why was this work undertaken so urgently?

[Answer] Because in 1977-78 we suffered from a dengue epidemic in the country, and our province was seriously affected on that occasion. We knew that this time our province would be vulnerable to a new dengue attack, because we are familiar with the speed with which it spread. Our concern was focused on the potential the health sector had to deal with such a large number of cases, above all because of the extremely serious characteristics with which this disease appears. All of these concerns led us to work very speedily, and this was how we carried out the initial campaign with the full support of the party and the mass organizations.

We believe that in fact these lightning efforts undertaken in the very first moments made it possible for the work done to keep the development of the incidence of cases much lower than we could have hoped.

The campaign against the harmful vector continued to develop in Sancti Spiritus with even greater impetus than at the beginning, and with more awareness and understanding on the part of the population, the best witnesses to its hopeful and magnificent results.

#### The Western Provinces

As in the rest of the country, the activities involved in the intensive stage of the campaign in the province of Havana began on 3 August. By the 10th, only 61 cases had been reported, showing a definite decline in the dengue fever, in terms of the fact that the total came to 643 cases on 24 June.

The lowest morbidity rate in the province was seen in the municipalities of Artemisa and Bauta, followed by Alquizar, Batabano, Jaruco, Mariel, Nueva Paz and San Nicolas, among others.

Havana has 624 beds available for cases developing no complications. For those patients who do, intensive care ambulances are used for transport to the city of Havana. The province was strengthened by the addition of 24 doctors and 61 nurses, as well as the contribution of specialists (pediatricians) from the capital of the republic.

By 10 August, Havana had completed the first cycle of motorized spraying within homes, had placed Abate in permanent water reservoirs, and had carried out the peripheral treatment with Baytex to a reasonable extent based on the plan. Moreover, the motor-transported spraying equipment had completed and overfulfilled the plan by

13.7 percent. Plan fulfillment was affected, among other factors, by a high level of breakdowns: 7.6 percent for the sprayers and 11.7 for the motorized carriers. Steps have now been taken, and the agricultural sector is making its valuable contribution to the urgent repair of this equipment.

Havana had a serious problem with access to housing. Of a total of 113,699 premises visited, 20,176 were locked up. Because of this, urgent steps were taken to solve this problem--adjustment in work schedules, repeat visits to the premises on the same day when the residents would be at home, and coordination of plans to visit locked housing and other premises with urban reform and other agencies.

Where observance of the sanitary instructions is concerned, Decree Law 27 is being implemented in all municipalities, and to date, 2,192 fines have been imposed throughout the province. The largest number of summonses, 342, have been issued in the municipality of Guines.

At the meeting with the head of the provincial operational group and president of the people's government in the province of Havana, Comrade Pedro Chavez, he said that Alquizar had done the best work in the province, and that the work done by Comrade Chirino, who for years has pursued entomological studies of the *Aedes aegypti* mosquito, deserves special note in that municipality. This made it possible to control the centers of infestation speedily.

Another praiseworthy task carried out in the province was the removal of malangueta at the dam located in Artemisa municipality. The population contributed greatly to this task, in which hoists were even used to remove the aquatic plant. The work done by the settlers in El Corojal, located near the artificial lake, was substantial. It was they who were most affected by the dangerous insect which bred there.

Another task undertaken in the province was the production of home sprayers (flit guns) in San Antonio de los Baños. This product, named "Arimao," is unusual in that the receptacle for the insecticide is made of glass. This item will soon be put on sale.

Guines was not lagging in this matter of initiative. There two cane carts were equipped as dining rooms for the brigades constantly on the move about the city and its environs. Thus the personnel could eat in comfort, served by pleasant waitresses and seated at tables provided with cold water.

A problem which caused the municipal leaders some headaches involved finding a place to discard the debris collected in the clean-up. However, the comrades in Guines did not have that problem, because they had a lake fed by river filtration and the sewage water of the settlement, which was a real center of infestation. They simply filled it with the products of the trash clean-up. Now Guines has an excellent area for a future athletic field overlying what was formerly the lake.

All of the health units went to work from the very first moments as a function of the epidemic. In general, the work of the health personnel was excellent, and all of the comrades, irrespective of their category or official post, voluntarily contributed their efforts to provide a high level of service to the patients.

In the municipality of Bejucal, we visited the dump which initially posed serious problems of severe infestation, because this locality has no bulldozer for moving earth to cover the refuse. In order to prevent mosquito breeding grounds from developing, oil has to be spread repeatedly and the garbage burned, but the danger of breeding centers in the refuse remains.

This same municipality faced a serious problem in the El Rio district, which it could not control since the district is not under its jurisdiction but that of the municipality of Boyeros in the Ciudad de la Habana province. This latter municipality has used a hill which is adjacent to Bejucal as a dump. Unpleasant odors from it reach the population of Bejucal, and as the comrades explained to us, they are taking steps to ensure the elimination of this mosquito breeding center. As this report went to press, we learned that the solution of the problem has been taken up by the people's government in Boyeros.

The good work done in the municipality of Quivican was also noteworthy. The clean-up was conscientiously undertaken there, with the elimination of centers and possible breeding grounds for the mosquito, mainly in the La Salud zone, one of those most seriously affected by dengue, but where the incidence is now zero. Laudable work was also done by the farm cooperatives in this Havana municipality.

#### Matanzas Province

After a brief visit to the Matanzas command post, we met with the president of the people's government in that province, Comrade Faustino Beato Morejon, who fully explained the launching and the development of the campaign against dengue fever and against the carrier agent, the *Aedes aegypti* mosquito. We learned that the first cases in the zone were reported beginning on 17 June.

Beato Morejon explained that at the beginning, the province lacked equipment for the campaign against the mosquito, and the assistance of the agricultural sector was essential. However, by the end of the month and early July sufficient equipment began to arrive, allowing an intensive campaign which proved very effective. In addition, a conscientious clean-up effort was coordinated with the FMC [Federation of Cuban Women], CDR [Committees for the Defense of the Revolution], CTC [Central Organization of Cuban Trade Unions] and the ANAP [National Association of Small Farmers]. Also, all other bodies made a very significant contribution to the implementation of this task.

By 27 June, work was being done on three aspects: eliminating breeding centers, destroying adult mosquitos and providing conditions for the isolation of all patients in hospitals. The province has a total of some 2,000 beds for dengue fever, and also intensive care wards were created in the pediatric hospital and others. As of this date, the province has had no deaths from dengue fever in more than a month.

Very effective control work was carried out by the party militants: Matanzas has 4,797 blocks and each of them has one member assigned for this purpose. These comrades received instructions during a seminar. The coordinated work of the personnel in the campaign with the population, which began on 3 August, made it possible to reduce the number of cases of the disease to 37 by 15 August.

The province has 96 brigades, of which 35 will continue as permanent, and there are sufficient resources to complete the program successfully. However, protective equipment is a problem: 109 more masks are needed. The last inspection tour revealed good results, but there are still small problems in the process of being resolved.

One problem which occurred in Matanzas Province, as it did throughout the entire country during the first spraying cycles, was the homes to which access was temporarily

impossible. There were some 3,000, and in this connection an intensive campaign must be waged with the active participation of the mass organizations. Special measures were pursued and the cooperation of the population was sought, making possible the energetic and forceful reaction of the province with a view to resolving the problem.

The highest level of incidence was found in Union de Reyes and the lowest in Varadero. Thanks to the work done by the entire population and the effort made by the health workers, the incidence in Union de Reyes is now the lowest: one or two cases a day. For this reason it can be said that Matanzas has the disease under control and a sharp decline can be seen.

One area where there were problems and which was initially fined because infestation centers were found within it was Rayonera de Matanzas. As a result, a real initiative was launched by the workers, and the administration showed concern, taking immediate steps to eliminate mosquito concentrations and breeding grounds. At the time of our visit, Rayonera had done good clean-up work, although it would be necessary to cut the green areas again, since as a result of rainfall they had shown excessive growth, and a check was also necessary to see if any cadres had remained in these areas.

Another site we visited in Matanzas Province was the municipality of Union de Reyes, where we learned that the highest level of infestation was to be found in Cidra and Union de Reyes, although the highest incidence of dengue fever had been in the village of Bermejas. At that time, the greatest potential danger was to be found in Sabanilla, where intensive work is being done to eliminate all concentrations and possible breeding grounds found.

Cardenas formed a brigade of 118 women, working with the FMC. The health brigade's members took a 3-day course and began a task similar to that of the controllers, long before these latter workers began their task in the course of the campaign. The city and the municipality have already completed three collections of garbage and waste accumulated in housing areas, working with the FMC, CDR, CTC and ANAP.

Currently Cardenas has no cases of the disease, but during the last survey, at the Lagunillas power plant and the Merceditas sugar mill, some concentrations were found. There were none in the rest of the territory.

In the Marina or Fundicion zone, we found a very peculiar feature in this Cardenas municipality, a focus of everyone's attention: in the lower areas, where there was swampy water, as well as in the ditches and other places where water accumulates, there were no mosquito larvae although no oil had been sprayed. We asked the municipal director of public health why this was, and we were told it was due to the work of Julian Tan Pam.

The problem in this low and swampy zone in Cardenas, where water accumulates and runs through canals, was resolved by the tenacity and activity of a comrade of Asiatic origin: entomologist Julian Tan Pam, who had the idea of "planting" the species of fish called "gambusia" and commonly known as "guajacón" in the places where water accumulated, including the peasants' water reservoirs. These small fish feed basically on larvae, pupae, and adult mosquitos, providing real biological control of these winged "feeders." Thus the low and swampy zones in Cardenas are protected, and there is no need to use oil or larvicides (which are very costly indeed) to keep the ditches and lakes healthy.

## EFFECTS OF HEMORRHAGIC CONJUNCTIVITIS REPORTED

Havana VERDE OLIVO in Spanish 20 Sep 81 pp 11-13

[Article by Frank Aguero]

[Text] The current epidemic of hemorrhagic conjunctivitis, like the dengue fever epidemic before it, appears to be one of the bacteriological warfare methods implemented by Reagan, Haig and Pentagon and CIA officials to hinder our country's way of life.

The Revolutionary Government of Cuba, therefore, issued on Wednesday, 9 September, a public accusation to which U.S. officials have not yet responded.

"The strange and unexplained manner in which the disease surfaced in Cuba, beginning so suddenly, just like the dengue fever epidemic, in the capital of the republic, as well as previous events repeatedly denounced by Cuba and confessed by the Yankee imperialists themselves, confirm our deepest suspicions that the imperialist government of the United States is using bacteriological weapons against our country," the Cuban statement said.

Public health authorities have again mobilized the country's human and scientific resources to end the epidemic.

Doctors, nurses and auxiliary personnel of the FAR [Revolutionary Armed Forces] Medical Service have an outstanding role in this army of humble workers who are devoting their lives to the health of the people.

Specialists and auxiliary personnel of the ophthalmology clinic of the Higher Institute of Military Medicine (formerly known as the Dr Luis Diaz Soto Central Military Hospital) get little rest these days.

They are to be found on the military post at any hour, in consultation at the polyclinic or attending patients in the ward equipped for those admitted with hemorrhagic conjunctivitis. The daily routine of these professionals also includes visits to military units as part of epidemiological groups who are supervising and directing compliance with the preventive hygiene measures dictated by the FAR Rear Services headquarters.

"Our country's health system guarantees the cure without ill effects of those afflicted. There is nothing to fear: they will not be blind," said Maj Jorge Martinez Ribalta, chief of the ophthalmology clinic and a member of the National Ophthalmology Group.

Fully dedicated to the campaign against this epidemic, several teams of qualified specialists are giving their attention to both members of the FAR and the civilian population.

The staff of the Higher Institute of Military Medicine is composed of Dr Martínez Ribalta, who is its director, and Capt Caridad Suarez and Capt Marina Benitez, who are specialists; First Lt Idelina Fernandez, Lt Georgina Saint-Blancart, Edith Gonzalez, Olga Neyra and Mayra Hornea, residents. Completing the group are ophthalmology aides, among them Erenia Rodriguez and Mercedes Diaz, a nurse. The first cases were diagnosed on Thursday, 3 September, at Dr Carlos J. Finlay Military Teaching Hospital. A team of specialists at that medical institution, under the direction of Maj Lourdes Ferrer, isolated the afflicted patients and notified the higher agencies so that common criteria might be set up for the diagnosis and treatment of the epidemic.

"The first four cases came to our hospital on Friday. Since then we have been seeing an average of 50 cases a day among the approximately 190 persons who come to the military post each day with symptoms characteristic of other types of conjunctivitis or because they believe they have the symptoms of the epidemic," said Dr Martínez Ribalta.

The specialists explained to newsmen that the patients admitted are those who have a major inflammation of the conjunctiva, in addition to other symptoms, such as swelling of the glands in front of the ears, inflamed ganglions in the outer ear area, extreme photophobia (sensitivity to light) or those in which any alteration of the cornea is diagnosed.

Patients who are admitted are given a treatment lasting between 4 and 5 days, according to nurse Flora Castro, chief of the specially equipped ward for victims of the epidemic. The maximum hospitalization is 1 week.

Of a total of 89 patients admitted to the center in the first 8 days, only 2 developed slight complications which were immediately controlled.

Treatments of patients admitted and of those who return to their homes or Medical Services posts (in their units) does not differ substantially. In addition to isolation of all cases, an important measure to break the chain of transmission, treatment includes physical and visual rest, applications of antibiotics 4 to 6 times a day, treatment of cycloplegia (if complications are detected) and cold compresses of a physiological serum.

#### Preventive Treatment

"Camilito" Raul Bermudez, an 11th grade student at a Western Army vocational school, suddenly felt an unusually sharp pain in his eyes, and on looking in the mirror, saw that his eyes were red; light bothered him to the point of having to close his eyes. Later on he experienced a discharge from his eyes. He went to the medical post at his school, and from there nurse Nelda Gonzalez took him to the Higher Institute of Military Medicine.

At the school, which was felt to be a possible focus of infection, immediate measures were taken, among them fumigation of the area and orientation of personnel, visits by the epidemiological group and other preventive activities. Preventive

personal hygiene measures advised are to practice personal cleanliness daily, wash the hands regularly, avoid rubbing the eyes and maintain strict personal use of towels, sheets, duffel bags and other items.

On the collective level, it is recommended that all areas be kept clean, that adequate hygienic measures be observed in bathrooms, that breeding places for mosquitos and other carriers be eliminated, and that recreation areas be enclosed and systematically cleaned.

What is Conjunctivitis?

Conjunctivitis is an inflammation of the conjunctiva, the outer membrane of the eyelid which is in direct contact with the atmosphere. It is an area containing many veins and blood vessels.

Besides acting as a protection against infection for the vital organ of vision, the conjunctiva also permits the free movement of the eyeballs.

Inflammations of this membrane are usually benign; they occur throughout the year as the summer weather becomes hotter or as a consequence of environmental microbes, dust particles, etc.

Through the use of various optical diagnostic methods and by comparing the specific symptoms with those of other types of conjunctivitis, it has been established that the current epidemic is the so-called hemorrhagic conjunctivitis.

Hemorrhagic conjunctivitis has never been seen in Cuba before.

It is caused by three varieties of virus: adenovirus 6 and 8, Coxsackie and enterovirus 70, microorganisms which grow at high temperatures (higher than 35 degrees centigrade) and find the conjunctiva an appropriate medium for growth.

The absence to date of this type of conjunctivitis in the Caribbean area plus its sudden appearance in Surinam, Colombia and Panama are factors which lead specialists to believe that the epidemic was introduced into our area, and moreover since the widespread health and epidemiological campaign carried out for the last 2 months leaves little possibility for the spontaneous outbreak of diseases of epidemic proportions.

Virological studies are being made to determine what type of virus has attacked us. There is no doubt now, as the Revolutionary Government's statement indicated, that we are facing another imperialist attack on our country, Dr Jorge Martinez Ribalta said in closing.

8735

CSO: 5400/2005

## ADVANCES REPORTED IN PRIMARY HEALTH CARE

Addis Ababa THE ETHIOPIAN HERALD in English 4 Oct 81 p 1

[Text]

**ADDIS ABABA (EH)** — The enthusiastic and active participation of the broad masses is of vital significance in the effective implementation of the "Primary Health Care" programme and in the improvement of public health, reported a press release issued by the Ministry of Public Health.

The major part of the programme of Primary Health Care, according to the release, focuses on balanced diet, environmental sanitation, and mother and child health care. The programme also gives due consideration to the proper supply of clean water, vaccination services, prevention of contagious diseases and to the provision of first aid services wherever and whenever necessary.

Since the programme of primary health care is based on the principle of self-help approach, its implementation helps the masses to improve and preserve good health at a minimum cost, the release asserted. It is impor-

tant that health organisations and centres at various levels and health personnel mobilise the necessary resources and see to it that the programme is implemented effectively, the release noted. In view of this, it was further stressed, the significance of coordinating the activities of development oriented projects with that of health service rendering organisations so that they both can make efforts towards the implementation of the programme of primary health care and the general improvement of the health condition of the public.

The qualitative and quantitative improvements made in the area of rendering extensive health services to the masses since the onset of the Revolution as a result of the various progressive measures and steps taken by the Revolutionary government was also pointed out. At the moment, the country is in a position to reach and render health services to 45 per cent of the total population. Compared to the situation in pre-revolution Ethiopia, the country has now in-

raised its health services by over 186 per cent within the last seven years, according to the release.

The number of health personnel in pre-revolution Ethiopia was 6,472. Now the number has gone up to 11,356. The release also reported in detail the number of health personnel working throughout the country in different areas of specialization. The efforts made in elevating various clinics to a level of health centres and in establishing new health centres were also pointed out. The Expanded Programme of Immunisation (EPI) on six diseases, launched in 1980, is currently underway in 86 cities and towns of the country. Preparations are also being made to promote 13 clinics to a level of health centres and to set up new ones in the not distant future, the release disclosed.

CSO: 5400/5000

## REPORT ON HUMAN TRYPANOSOMIASIS IN COUNTRY

Addis Ababa THE ETHIOPIAN HERALD in English 11 Oct 81 p 5

[Text]

The Rhodesian form of sleeping sickness was first reported in Ethiopia in 1967 from Maji Hospital (Baker and McConnell, 1969, Trans. R. Soc. Trop. Med. Hyg.). The infection is believed to have taken place in the upper Akobo River. Later the disease was at large in the Gambella Awraja, Illubabor Administrative Region, reaching an epidemic proportion in 1969 along the Gile River. It was also reported from the Baro and Akobo River areas, though the incidence along these two rivers was relatively low.

Prior to 1967, no cases of sleeping sickness were reported in the country. The appearance of this dangerous zoonotic disease in Gambella has led concerned scientists to speculate the whereabouts of its origin; but none of the alternative possibilities is yet confirmed.

Ever since, *T. rhodesianus* has been prevalent among the indigenous people of Gambella, the Anuaks mostly. Since the Anuaks are not a widely mobile tribe, the fear that the disease may spread to other parts of the country through human movement was not that pronounced. The disease was being reported only from Gam-

bella with fluctuating yearly incidence.

Eventhough the valleys of the Omo and its tributaries, the Didiya River and the Mbe and some of its tributaries, were implicated as areas of special risk to which the infection may spread, it is only recently that a case, a poliovirus, was diagnosed to have the disease outside the known focus. This case was found in the Gamo Gofa Administrative Region. The infection is believed to have taken place along the Mero River, a tributary of the Gile River, in Mural Woreda (Ogofay and Ashjora, 1981, Eth. Med. J.).

The possibility that the case might have acquired the infection outside of Gamo Gofa was investigated in May 1981, by a team from the Central Laboratory and Research Institute. Records kept at the Police Headquarters in Gamo Gofa and interviews held with the case's relatives showed that he had never left his station of duty, Mural Woreda, within months before the onset of the disease. (The case died in September 1980). In fact according to the records kept at the Police Headquarters his movement was restricted to

**Gama Gofa Administrative Region.**  
One is thus led to conclude that the case acquired the infection locally.

In collaboration with the Communicable Diseases Control Division of the Ministry of Health, CLRI is planning to undertake clinical, parasitological and entomological surveys in the suspected area. Meanwhile CLRI requests health personnel in Southern provinces to be watchful of trypanosomiasis cases and promptly reports to us or to the CDC division of the Ministry.

**(CLRI News Letter)**

CSO: 5400/5000

## BRIEFS

REGIONAL VACCINATION PROGRAM--The Medical Field Unit of the Ministry of Health, will next week embark on a vaccination programme against yaws, yellow fever, measles and tuberculosis at Akin Essaso. Baffour Okyere Prempong II, Chief of the town, has therefore pleaded with his people to take the programme seriously to protect themselves against such infectious diseases. Speaking at an Akwasidae Festival at Essaso, Baffour Prempong, an Agricultural Officer of the Cocoa Production Division, stressed the importance of the vaccination programme. [Text]  
[Accra DAILY GRAPHIC in English 16 Sep 61 p 4]

CSO: 5400/5622-E

## BRIEFS

**CONJUNCTIVITIS IN PETEN**--Epidemiology officials of the Ministry of Health have taken measures to try to end the outbreak of conjunctivitis which has threatened areas of the department of Peten for more than 1 month, Dr Gustavo Adolfo Cordero Herrera, vice minister of health, has told the press. He said that to date the type of conjunctivitis which has broken out in the Peten area has not been identified. The disease is transmitted, he said, by the common mosquito known in Peten as "Chaquiste." He indicated that this disease can be cured with medicated eye-washes and other types of eyedrops. It is also recommended that dark glasses be used, since often conjunctivitis is spread through lack of cleanliness or by rubbing the eyes with dirty hands. He indicated that samples of the disease have been sent to special laboratories to determine what strain of conjunctivitis is threatening the people of the Peten region. Finally, he said that health authorities are working to control the Peten epidemic. [Text] [Guatemala City PRENSA LIBRE in Spanish 11 Sep 81 p 47 8735

**CHILDREN'S EPIDEMIC IN COATEPEQUE**--Coatepeque--An epidemic among children has already caused several deaths, and many other patients are in very serious condition in clinics, private hospitals and in the nation's hospital. The disease attacking the children, according to some physicians, is marked by diarrhea, vomiting, fever and dehydration. In just a few hours the disease undermines the health of small children, who, if they do not receive immediate medical attention, may die at their parents' homes. Many children are being cared for and treated in medical clinics, private hospitals and the national hospital for this epidemic disease, which is causing serious concern among the people, since several children have died and many are in serious condition. The pediatrics department of the national hospital reports that several children have been admitted and that that department is extremely crowded. It was reported that six children admitted Monday evening died a few hours after their arrival. Some deaths have also occurred at various homes. To date doctors have been unable to explain the source of the epidemic affecting children here. [By Edgar Octavio Giron Castillo] [Text] [Guatemala City PRENSA LIBRE in Spanish 24 Sep 81 7 8735

**MORE ON COATEPEQUE EPIDEMIC**--Coatepeque--Five children died here on 22 September from acute gastroenterocolitis of unknown origin, which has reached epidemic proportions among the children of this locality. The total number of deaths from the disease, which is caused by an unknown virus, may reach 11, according to local medical authorities. The pediatrics ward of Juan Jose Ortega Regional Hospital here reported that between 19 and 23 September, 17 children were admitted with gastroenterocolitis of unknown origin. Of those patients, 14 are from this city and

three from outlying municipalities. The children are from the districts of El Jardin, La Esperanza, Candelaria, Las Casas, San Francisco, El Rosario and Lotificacion Magnolia. Three deaths have occurred at the national hospital, one on 20 September and two on 22 September. Meanwhile, many children are being treated at private clinics and hospitals and at home, and it is feared that more will die from this acute gastroenterocolitis of unknown origin. [By Edgar Octavio Giron Castillo] [Text] [Guatemala City PRENSA LIBRE in Spanish 25 Sep 81 p 227 8735

CSO: 5400/2005

## BRIEFS

**CHOLERA DEATHS REPORTED**--During the period 19 to 26 September a total of 28 persons throughout the country died as a result of contracting cholera. The office of public relations and guidance of the Ministry of Health has announced: "According to reports received from hospitals and clinics throughout the country, during the period 19 to 26 September of this year, 3,990 persons, suffered vomiting and diarrhea for various medical reasons. The department of public relations and guidance of the Ministry of Health has announced that out of this number, 1,172 were positively diagnosed as suffering from cholera, and regrettably, 28 persons died in various cities throughout the country." In order to avoid contracting this disease and to stop the spread of contagious diseases, water should be boiled whenever pure drinking water is unavailable. Citizens have been enjoined to wash their hands with soap before handling foodstuffs and after using sanitary facilities and to wash fruits and vegetables in chlorine and to kill flies and other insects. [Text] [Tehran KEYHAN in Persian 8 Oct 81 p 2]

CSO: 5400/5301

## MALAYSIA

### BRIEFS

SCHISTOSOMIASIS DISEASE--Kuala Lumpur, 14 Oct (AFP)--A worm which causes serious damage to the liver and spleen is found to exist in Malaysia. The worm, which causes the disease "schistosomiasis," which affects about 200 million people in the world mainly in Africa, South America and West Asia, was first discovered in Malaysia by the Institute for Medical Research (IMR), recently. It was found in a man in Pahang State. Quoting an IMR spokesman, the National News Agency Bernama said today that the worms were carried by certain species of snails found mainly in small streams in deep jungle. The IMR is now making a comprehensive study on the distribution of these snails and parasites in an attempt to define more accurately the regions where potential danger exist. Investigations have shown that the Malaysian species of worm are different from those found elsewhere. The Malaysian species are thought to produce a milder disease in man than the more widespread Asian species "schistosoma japonicum." [Excerpt] [BK161451 Hong Kong AFP in English 0709 GMT 14 Oct 81]

CSO: 5400/4519

**MINSA ISSUES CONJUNCTIVITIS ALERT IN COUNTRY**

Managua BARRICADA in Spanish 11 Sep 81 p 9

[Article by Mario Tapia]

[Text] In the past 2 weeks, the viral conjunctivitis epidemic which is now plaguing Colombia, Surinam and Honduras has been reported among the population in Zelaya Sur, Leonel Arguello, the official in charge of preventive medicine for the region, has stated.

He said that the conjunctivitis was brought to the Atlantica region by Honduran sailors seized for piracy in Nicaraguan waters.

Eighty percent of the Honduran sailors registered at El Bluff showed symptoms of the disease.

After these first seizures, the disease spread in El Bluff.

Conjunctivitis takes only 24 hours to develop. It is recommended to use no medicine at all--eyewashes, etc--since the best treatment is periodic rinsing with water. Discomfort in the eyes occurs after 4 to 7 days. It is important to stress that no medicine should be used, since they may cause serious eye infection because of the corticosteroids such products contain.

Currently, Dr Arguello said, conjunctivitis has spread to Waspan, Bluefields, San Juan del Norte, Laguna de Perlas, Las Minas and Puerto Cabezas.

**Health Regions Alerted**

Meanwhile, the Ministry of Health in Managua sent recommendations 5 days ago to all the health regions of the country to warn and instruct the citizenry about the treatment of conjunctivitis.

As we said before, all that is needed is to cleanse the eyes.

Dr Jaime Manzanares, an official in the department of preventive medicine at the Ministry of Public Health, explained that there are three types of conjunctivitis: viral, which causes no physical damage; bacterial, which is the most dangerous because it often affects other organs, and catarrhal conjunctivitis, which is caused by smoke and dust.

#### AA Convention Canceled

Meanwhile, the vice-minister of health, Dr Ivan Tercero Talavera, sent a letter yesterday to the director of the office of general services on Alcoholics Anonymous stating the following:

"Because of an outbreak of hemorrhagic conjunctivitis in the city of Bluefields, the Ministry of Health has decided to cancel the scheduled national convention of Alcoholics Anonymous, which was to have been held in Bluefields on 13 and 14 September, because it believes that if it were held this might be an important factor in spreading the disease throughout the national territory."

5157

CSO: 5400/2208

## CAMPAIGN AGAINST AEDES IN ITS FINAL STAGE

Managua BARRICADA in Spanish 28 Aug 81 p 14

[Text] Lea Guido, minister of health, appealed to the entire people today to deal the final blow to the mosquito which carries dengue fever, the *Aedes aegypti*, in the final stage of the campaign launched 2 weeks ago.

Other members of the National Emergency Committee for Combating the *Aedes Aegypti*, in addition to companero Guido, reported on the various activities which have been carried out in Managua and in the rest of the country.

Guerrilla commanders Walter Ferreti, national chief of the Sandinist police, and Leopoldo Rivas, of the EPS [Sandinist Peoples Army]; Commander Leticia Herrera, national secretary of the CDS [Sandinist Defense Committees]; Agustin Lara, of the departmental leadership committee of the FSLN [Sandinist National Liberation Front]; Glenda Monterrey, national secretary of the AMNLAE; Francis Cuadra, of the 19 July JS [Sandinist Youth]; and Dr Ivan Tercero, vice-minister of health, participated in the press conference at Government House yesterday afternoon.

### A Successful Campaign

Lea Guido stated that the campaign has been a great success. The various sectors have participated outstandingly. In Managua, more than 36,000 homes were treated. Only 278 owners refused to open their homes to the popular brigade members.

However, this attitude was termed a health problem by the minister of health. In all, more than 126,000 potential breeding areas were destroyed, for which purpose 636,000 grams of Abate were used. More than 2,803 vacant lots were cleared, and 5,750 cubic mm of trash was removed in 650 neighborhoods.

Although the details are not available from the other departments, the health authorities recognize the participation of the entire revolutionary state, without which the campaign would not have been possible. In Managua, 200 trucks were mobilized, while it was announced that many vehicles were treated on the country's boundaries (in Las Manos alone, 601 were sprayed), as well as 256 planes, while many ships were treated as well.

### CDS Brigade Members

Commander Leticia Herrera said that the CDS took on the task very responsibly. The goals for brigade membership were surpassed. A total of 60,000 brigade members were mobilized throughout the country.

She made an appeal to the people to multiply efforts to complete the campaign successfully this coming weekend. She appealed for the participation of the people in Granada and Masaya, where the expected response has not been obtained.

#### Women's Contribution

Glenda Monterrey, national secretary of the AMNLAE, said that the Ministry of Interior trained 40 companeros as analysts. Even the prisoners within the national penitentiary system participated in the packing of Abate in little bags.

In all, the Ministry of Interior workers packed 3,081 pounds of Abate. "We are always ready to participate in any task for the benefit of the people," Commander Ferreti said.

Commander Leopoldo Rivas, of the EPS, said for his part that his people had drafted a domestic eradication plan.

He noted that the dengue disease is directly related to the defense of the country, since if an epidemic should develop it would threaten the lives of the combatants. He added that the EPS has given the Ministry of Health all necessary cooperation, consistent always with the structure of that military body.

#### Special Neighborhood Plan

Agustin Lara spoke on behalf of the FSLN. He termed the successes of the campaign truly impressive. He said that a special effort will be promoted in Managua in the residential neighborhoods where there has not as yet been a positive response.

He appealed to these neighborhoods to show greater concern for their health and thus that of the entire people.

Francis Cuadra, of the 19 July JS, spoke on behalf of that youth organization. He said that its members are proud to have participated in the campaign, while these tasks were undertaken in connection with the celebration of the first anniversary of the National Literacy Campaign. "There is enthusiasm for participation in any activity and much optimism for next weekend," the Sandinist youth leader noted.

Finally, companera Lea Guido announced that the next few days of the campaign will include a surprise. She would say no more on this subject, since a special press conference will be called precisely to reveal the surprise.

5157

CSO: 5400/2208

## NIGERIA

### BRIEFS

CHOLERA EPIDEMIC--Ten persons have died of cholera in Ibadan (major city in western Nigeria) during the past few days, hospital sources announced on Tuesday. The sources added that about 40 patients suffering from the disease were admitted into various hospitals in the city between Saturday and Monday. [Excerpts]  
[AB171145 Paris AFP in French 1827 GMT 13 Oct 81]

CSO: 5400/5628

## BRIEFS

EPIDEMIC CLOSES CHILD CENTERS--The Ministry of Education working in coordination with the Health Ministry have decreed a temporary closing down of preschool centers in the metropolitan area in order to halt the advance of a viral meningitis epidemic affecting the capital city. The measure will be in effect starting tomorrow, 13 October, at orientation centers, child day centers, kindergartens and prekindergartens in the districts of Panama and San Miguelito. An urgent meeting was held this morning at the Health Ministry with the presence of Minister Jorge Medrano, Education Minister Susana Richa de Torrijos, the Health Ministry Epidemiology Commission and Gorgas Laboratory scientists who analyzed the causes of the disease and preventive measures. The virus causing the meningitis is under study at Gorgas Hospital and an official report on the same should be ready by Wednesday. As of this time 200 cases of viral meningitis have been treated. In addition there have been some 20,000 subclinic cases which could have been the infection. Most clinical cases are from the San Miguelito area. [Excerpt]  
[PA130438 Panama City RPC Television in Spanish 2300 GMT 12 Oct 81]

CSO: 5400/2012

## SAO TOME AND PRINCIPE

### BRIEFS

HEALTH CARE STATISTICS--Until 1975 health structures were not implanted for the benefit of the people. In Sao Tome and Principe, it was important to guarantee the minimum in order to reap the maximum. Thus no tradition existed until independence for "preventive health care." Hospitals were viewed as mere curative institutions. The year 1975 brought a reform in the field of health. Hospitals began exercising preventive functions, and these measures became more widespread with the establishment of health centers in every district. Today Sao Tome possesses hospitals in every area; however, there are serious maintenance problems. There is a shortage of equipment and the same is true of medical and para-medical personnel. Sao Tome and Principe has 8 national physicians and 1 physician [as published] per 2,500 inhabitants. [Excerpt] [Maputo TEMPO in Portuguese 27 Sep 81 p 16]

CSO: 5400/5629

## BRIEFS

TRINCOMALEE CHOLERA DEATHS--Cholera has hit Trincomalee district once again. This time Kinniya, a principal town in the Muttur electorate in the district has been affected. Five persons have died due to cholera and over fifty persons described as positive cases have been admitted to the Trincomalee Base Hospital. Prompt preventive measures have been taken by the Health authorities under the direct supervision of the Trincomalee Medical Officer of Health. According to investigations made by the Health authorities, the disease has spread due to some villagers using drainage water for drinking purposes because of the drought from a channel called Peenkanudaintha Aru, which is situated in the south-west of Kinniya town. [Text] [Colombo SUN in English 5 Oct 81 p 1]

CSO: 5400/4903

## INCREASE OF VENEREAL DISEASES REPORTED

Kinshasa ELIMA in French 18 Sep 81 pp 1, 7

[Article by Lutumba Washi Basunga]

[Text] Right now, venereal diseases are noticeably gaining ground in Mbanza-Ngungu, the district capital of the Cataractes subregion and of the Mbanza-Ngungu zone, in Kwilu-Ngongo located in the Mbanza-Ngungu zone and in Kimpese, located in the Songololo zone.

Tourists passing through these three social and economic centers, as well as the local inhabitants, are forever complaining about the ineffectiveness of the health services.

Given the seriousness of this problem, we paid a visit to the subregional health office where we chatted with several officials who are in charge of specialized services dealing with the health of "ndumba" women and other people as well. Looking at the statistics, we noticed that for the year 1980, venereal diseases, mostly transmitted by "ndumba" women, top the list with 80 percent of the cases.

In the town of Mbanza-Ngungu:

Number of women checked	124
Number of women treated	46
Number of loose women checked	122
Number of loose women on the run	2
Number of pregnant women	5
Number of infections detected	230
Positive smear tests	46
Negative smear tests	78

Center of Kwilu-Ngongo:

Number of smear tests	523
Number of loose women registered	470
Number of unmarried women checked	26
Number of loose and unmarried women checked	637

#### General Results of Smear Tests:

Number of women infected	377
Number of women not infected	160
Number of shots given	888 (penicillin, procaine, extencillin)

#### Center of Kimpese:

Number of women in the check list	150
Number of women checked	79
Gonococcal infections treated	54
Venereal diseases treated	227

#### A Serious Social Problem

It is unquestionable that this situation has serious consequences to the point that many "loose" women in Mbanza-Ngungu, Kwilu-Ngongo and Kimpese are going around with venereal diseases which have become resistant to treatment.

#### The Ndumba Women Adopt an Arrogant Attitude

The few "ndumba" women whom we met at the health service clinic surprised us with their amazing statements. They did not hesitate to lay the blame on the police and other armed services which show a guilty tolerance. So far, they told us, the checks have proved to be an ineffective measure due to the immunity enjoyed by some "ndumba" women who are living with big shots. These women are notorious for their flagrant refusal to submit to tests when they are summoned by health service officials. "In what way are we to blame more than those proteges?" they asked.

#### Health Service Raises the Alarm

When they read the reports from Kimpese, Kwilu-Ngungu and Mbanza-Ngungu, the health authorities complain about the bad behavior of the untouchables who forbid their concubines to be checked. It is only when these men become infected that they run to the health office with their complaints.

The "roundup" operation of loose women mounted last year by the health services, turned into a failure. This was due to the fact that some men turned up in court, at the police station and in the subregional office instead of the carriers of venereal diseases. If some women were arrested and taken to the central jail in Mbanza-Ngungu, it was because the police court remained adamant. In spite of the underhand behavior of the big shots who are protecting the disease, the health services have decided to repeat their roundup operation this year. They will do it whether those who live in the fringes of society and the "untouchables" like it or not.

The ball is now in the court of the appropriate authorities who must use their power to enforce the law.

8796

CSO: 5400/5613

## VACCINATION CAMPAIGN AGAINST CHILDHOOD DISEASES TO BE LAUNCHED

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 14 Jul 81 pp 1, 6

[Article by Yav Mwin-Mem]

[Text] The subregional commissioner of Lubumbashi, Mvuma Ngeti Nfusukila, met with a delegation of physicians in his office last Saturday. The delegation was headed by the director of the university clinics in Lubumbashi, Dr Talleyrand.

In the course of their work session, the medical team presented the subregional authority with the outline of the work it hopes to carry out throughout the Lubumbashi subregion, in terms of a campaign against childhood diseases. It will be expressed in terms of preventive efforts against measles, poliomyelitis and tuberculosis.

These diseases are among those most dangerous to young children. The complications they entail are such that the attending physician is often powerless. Therefore, a vaccination campaign is urgently needed, the doctors said.

The preventive campaign is being organized by the service known as the "expanded vaccination program," working closely with the antituberculosis league. Children between 36 months and 3 years of age are involved in this vaccination campaign.

In view of the importance of this activity, the medical corps has asked the subregional administration to aid it in its task. The effort to eliminate childhood diseases cannot succeed unless the material resources are found, the physicians told the subregional commissioner.

The delegation of physicians also stressed the publicity campaign which must precede the vaccination campaign, for the battle launched against these diseases cannot succeed without the participation of the parents, the doctors said.

The subregional commissioner, for his part, promised material aid to the medical teams. He stressed the fact that the vaccination campaign is of a compulsory nature. Therefore, all possible publicity means will be used.

The battle will be waged on a double front, the subregional commissioner said. On the one hand, discussions will be held in the zones, localities and neighborhoods, and on the other, announcements will be made in the enterprises. "Those in charge of the organizations mentioned will see to the implementation of the recommendations I will send them in a circular," the subregional commissioner said.

Mr Mvuma thanked the delegation of physicians for their laudable undertaking consistent with the dictates of the "... social co..."

ZAIRE

BRIEFS

MEASLE VACCINATION CAMPAIGN--In a letter addressed to the authorities of the various enterprises in the Lubumbashi subregion, the subregional urban commissioner, Mvuma Ngeti Mfusukila, has announced that he has just made vaccination against measles compulsory throughout his jurisdiction. In this connection, he expressed the hope of seeing the children at each enterprise covered by the campaign at these installations, preferably the dispensaries. Vaccination, he explained, will be free. He also stressed the need for each enterprise to draft a vaccination plan in order to be able to establish an overall program and schedule a day on which the nursing team will be made available to the enterprises where vaccinations will be carried out. In our Monday issue we will publish the schedule for vaccination and the various medical teams which will carry out this campaign in each zone. [Text]  
[Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 25-26 Jul 81 pp 1, 8] 5157

CSO: 5400/5277

## ZAMBIA

### BRIEFS

RABIES INFESTED AREA--Kasama has been declared a rabies infested area, according to a Government Gazette notice published on Friday. It said all animals of the canine species are to be secured in accordance with the control of dogs regulations with immediate effect. Meanwhile, the Gazette has announced the cancellation of a notice which declared Muyombe area rabies infested on May 8. [Text] [Lusaka SUNDAY TIMES in English 18 Oct 81 p 1]

CSO: 5400/5632

## MYSTERY DISEASE KILLS FOUR IN LOWVELD

Salisbury THE HERALD in English 18 Oct 81 pp 1, 3

[Text]

**A MYSTERY killer disease, which has already claimed the lives of four children is sweeping Zimbabwe's Lowveld.**

The disease, believed to be caused by a still unidentified virus, has attacked at least 200 people in the area over the past three weeks.

Last week researchers at the University of Zimbabwe were at work trying to isolate the virus.

Deputy permanent secretary of health Dr Louise Westwater said outbreaks of the illness, often mistaken for typhoid, had occurred in the region before.

"This is not typhoid... It is a rather obscure disease which we hope will die out on its own within a month or two," she said.

One of the worst affected areas is Mwanazana, 30 km north-west of Rutenga. The four dead children all attended the local primary school.

Of about 70 pupils taken ill more than 40, including a number in hospital, are still absent.

The deputy headmaster, Mr Davison Moyo, said sick pupils who had been unable to sit their grade seven examinations last week would be given the opportunity to take them later.

Mr Moyo said pupils started collapsing and complaining of headaches, upset stomachs and dizziness during morning assembly about two weeks ago.

"Some of them fainted on their way home," he said. "It caused a lot of alarm because it was all so sudden."

Local health authorities were immediately informed and went to the school to investigate, he said.

The sick pupils were ferried to the district hospital at Neshuro. The more serious cases were then transferred to Fort Victoria General Hospital.

Mr Manfred Vingura Muhango, senior medical assistant at Neshuro Hospital, where two of the

children died, said he at first suspected malaria and gave appropriate treatment.

When the patients failed to respond he tried treatment for typhoid. Only a few had responded.

Most of the pupils sent to Fort Victoria and given anti-typhoid treatment had, however, recovered. These had been returned to Neshuro and detained because it was feared they would become reinfected if they went back home.

"But there was nowhere for them to sleep and nothing to eat so most of the pupils fled," said Mr Muhango. "We fear they will soon be back with the same complaint."

Dr Westwater dismissed the widespread belief in the Mwanazana area that the illness was caused by contaminated water.

During the dry season the pupils dig for water in the dried-up bed of the Mwanazana River at a spot only 50 m from a cattle dip.

BRIEFS

RABIES IN PARANA--Paranavia--About 200 homeless dogs will be put to sleep in the small municipality of Itaquaje, in northeastern Parana, because of the extent of the rabies outbreak in the town. The disease has already been confirmed in 10 animals that had indirect contact with over 100 people, most of them children. Another 400 dogs who have owners will be revaccinated. This was the only measure that municipal authorities and the Parana Secretariat of Agriculture could arrive at to eradicate the focus of canine rabies, after a meeting at the city hall. The meeting was attended by Mayor Celso Inacio Ramalho; Anor Antunes, president of the chamber; Elio Joao Ventura, chief of the Regional Nucleus of the Secretariat of Agriculture; Marco Antonio Teixeira Pinto, regional coordinator of animal health protection, of the secretariat; chiefs of the health units of Colorado and Paranacity; and other technicians of Itaquaje and neighboring municipios. The decisions have the support of veterinarian Jose Antonio Rosa Filho, chief of the Maringa Regional Nucleus of the Parana Secretariat of Agriculture. The dogs will be sacrificed in a way that will not cause a clash with animal protection groups. [Text] [Sao Paulo FOLHA DE SAO PAULO in Portuguese 23 Sep 81 p 21] 6362

CSO: 5400/2007

## MYSTERIOUS CATTLE DEATHS AFTER DISINFECTION PROCESS

Beira NOTICIAS DA BEIRA in Portuguese 12 Sep 81 pp 1, 3

[Text] Last April, some 413 head of cattle died shortly after undergoing a disinfection process in Micaune, Zambesi.

Since this occurred "a long time ago," so to speak, this fact may cause little concern. However, the truth is that to date no light has been shed on the matter despite the fact that laboratory tests have revealed a foreign element in the composition generally used in disinfection tanks. What makes this incident even more atypical is that there is no recollection of any cattle ever having died of poisoning following such a process.

About a week ago, we were talking with Dr Geraldo Rodriguez, from the Zambesi stock-raising farm, who, shortly after this incident was asked to come to Micaune in his capacity as veterinarian to investigate the causes of these deaths. Geraldo Rodriguez told us that when they spoke to him on the subject, he was surprised not only at what they told him but even more so at what this incident led one to believe. He said that he had made the required analyses and confirmed that it would be impossible for the cattle to die from a disinfection process unless foreign elements were present in the product generally used for this purpose.

This loss means about a 3,000-conto financial set back for the government cattle-raising sector in Micaune. Dr Geraldo also told us that in normal circumstances he should have arrived in Micaune the day after he was called from Chinde, but as the roads were so bad, he arrived there almost 3 days later. And even had he arrived on the same day, he could not have prevented the cattle from dying, for the poison used was such that all the cattle would be dead in less than 4 hours. He made this statement in the presence of many people, among them, representatives from private and government enterprises and from the cooperative sector.

## And Cattle Are Still Dying

Micaune is one of the largest steer-producing areas. The Irmaos Filipe company alone has about 12,000 head of steer, and the government sector has about 1,000.

But because Micaune is almost totally isolated, someone may be taking advantage of this fact to continue causing cattle to "disappear" in this manner. The fact that within the last 3 months, Mendes, another private company, has lost some 100 head of cattle, without anyone's having discovered why, goes to prove this.

It is, in fact, a deplorable situation considering that in many cities in the country over 1,000 people are going without any meat; and in other parts of the country, such as in Micaune, they are not behind its "disappearance!"

However, what is still more alarming is the fact which we first pointed out. On the one hand, the large number of cattle which have died, and on the other, the fact that this is causing a withdrawal [from the area] because some people are refusing to entrust their cattle to the Micaune disinfection process, for they are afraid that they may drop dead from poisoning.

It is therefore important to explain to these people, cattle-raisers in Micaune, that if those 300 and more head of cattle died, it was because someone had poisoned the tank and not because the disinfection process is causing this kind of death. And at the same time, they must look for and openly accuse those who are responsible for this!

8870

CSO: 5400/5611

# MYSTERY SLIME KILLING MOST MARINE LIFE IN TASMAN BAY

## Fishermen's Livelihood Threatened

Auckland NEW ZEALAND HERALD in English 19 Sep 81 p 3

[Text]

### Nelson

Nelson fishermen yesterday said their livelihood was in jeopardy following the discovery of a mystery grey slime which is killing most marine life in Tasman Bay.

They want the abandoned 1981 Nelson - Marlborough scallop season to be re-opened to give fishermen some income over the next few months.

A spokesman for the Nelson Fishermen's Society, Mr Neil Harvey, said: "The slime is killing everything in Tasman Bay. We should be allowed to take the scallops before they are all dead. If we do not get a chance to dredge the scallops, there will be nothing left for us and we will need Government assistance."

### Samples

Mr Harvey on Thursday took a Ministry of Agriculture and Fisheries scientist, Mr M. Bradstock, and a Cawthron Institute microbiologist, Mr Lincoln Mackenzie, to some of the worst-affected areas.

The pair dived at two areas in Tasman Bay to take samples and to test the effect on marine life.

"We did not see a single sign of life when diving," Mr Mackenzie said.

After working on samples of the slime he felt it may be dinoflagellate, a microscopic single-celled plant.

The characteristic of that organism is that it blooms in tremendous numbers.

Mr Mackenzie said the Tasman Bay slime could be similar to the "red tides" found off the United States coast, which contain potent toxins.

"The slime we have got is definitely killing fish but as yet we do not know if it contains toxins or is smothering them."

Mr Bradstock said a number of dead octopuses had been found in trawl nets along with the slime over the past few days.

### Thicker

"Octopuses live in burrows on the bottom so are the first to be affected."

Mr Bradstock said that when diving in 30 metres of water east of Adele Island in Tasman Bay the scientists found the slime was thicker as they went deeper.

"We came to a patch which we thought was the bottom. It was like a great grey plain below us. Instead, we sank through the long, thin skeins of inter-woven slime."

"When we got to the bottom it was rolled up in coils and there was no sign of life."

In only eight metres of water on the western side of Adele Island the scientists found an even thicker patch of slime.

"It formed a blanket over shellfish — scallops and mussels were cloaked in the stuff," Mr Bradstock said.

A microbiologist at the Cawthron Institute, Dr Paul Gillespie, said three species

of dinoflagellate had been found in the slime.

But he was not sure whether the dinoflagellates were causing the slime. The cause could be a species of algae.

Bacteria in the slime was being examined to see if it could be depleting oxygen in the water.

Dr Gillespie said he had heard of other instances of similar slime in New Zealand waters — "but it has never occurred to this extent before."

Fishermen had been troubled with slime in Tasman Bay in the early 1960s, he said.

Mr Harvey said the only fishing offering to small boat trawlermen were flounder which some were catching in a small area not affected by slime outside Port Nelson.

# Identified as Hydro Plankton Bloom

Auckland NZ HERALD in English 23 Sep 81 p 5

[Text]

Press Assn Wellington

The organism producing the slime choking Tasman Bay has been identified, but there appears little the Ministry of Agriculture and Fisheries can do to control it.

The Minister of Fisheries, Mr MacIntyre, told Parliament yesterday that the culprit was hydro plankton bloom, and the ministry was looking at its biology, distribution and abundance.

"At this stage it is unlikely the ministry can do anything to influence the natural progression of the slime in such a large area as Tasman Bay," Mr MacIntyre said.

Answering an urgent question was Mr M. F. Courtney (Independent-Nelson), he said the slime was "a natural phenomenon" which had occurred several times in the past.

Outside the House, the director of the Oceanographic Institute, Dr D. E. Hurley, said yesterday that

several slime outbreaks similar to that in Tasman Bay had been recorded throughout New Zealand.

The first, in Hawkes Bay from 1908 to 1911, caused a marked reduction in flat-fish catches. Slime was also reported to have struck in Hawke Bay in 1936, the Hauraki Gulf in 1938 and 1984 and the coastline near Tauranga in 1938.

Dr Hurley said it had been found that nothing could be done to remove the slime: "You just have to wait for it to clear."

But, he added: "There is no indication that it has a lasting effect, though."

Dr Hurley thought it unlikely that the present outbreak would spread, because the factors which gave rise to it would have passed by now.

"The conditions it needs to grow to this extent are always present in the water," he said, "but under certain meteorological conditions there is massive growth."

CSO: 4700/149

## SHARP REDUCTION IN INCIDENCE OF CATTLE DISEASES REPORTED

Auckland NEW ZEALAND HERALD in English 28 Aug 81 p 9

[Text]

Campaigns against brucellosis and tuberculosis have brought about a sharp reduction in the incidence of the diseases in New Zealand cattle.

The control schemes aimed at beating the two diseases are likely to continue for some time.

The Ministry of Agriculture and Fisheries believes the point at which tuberculosis may be viewed as beaten will be some years away but victory over brucellosis may be sooner.

This year the number of cattle reacting to brucellosis tests is expected to drop to about 2000, compared with 7700 last year and more than 20,000 in 1974.

About 2300 cattle are predicted to react to tuberculosis testing this year, against 4300 last year and more than 15,000 in 1973.

### EEC Directive

The campaign to eradicate the diseases is a response to European Economic Community requirements for beef access.

An EEC directive called for each meat processing plant to provide a separate

slaughterhouse for sick or suspect animals.

Rather than having industry funds going into these slaughterhouses the Government decided in 1971 to attack the cause rather than the symptom.

### Not Possible

It mounted a campaign to eradicate brucellosis from the national herd and extend an existing tuberculosis eradication campaign in dairy cattle to cover the beef herd as well.

Mr George Rogers, an assistant director with the ministry's animal health division, says that now the 10-year limit has expired a problem left is what to do with remaining diseased cattle.

Traditionally, such cattle have been killed at freezing works and have joined all other beefmeat destined for the local market in New Zealand.

Now that the reacting cattle are banned from export slaughterhouses this course is no longer possible and Mr Rogers says it is not economically viable to have it processed any other way.

It has decided to have diseased cattle slaughtered and buried in future, or, where possible, boiled down.

EFFECT OF FACIAL ECZEMA ON LIVESTOCK FOUND LESS SEVERE

Auckland NEW ZEALAND HERALD in English 25 Sep 81 p 9

[Text] Facial eczema does not appear to have had the severe carry-over effect on the new season's lambing and calving that was feared.

Livestock in much of the Auckland province is reported to have come through the winter surprisingly well.

Many thousands of animals must have had their livers affected by the damaging eczema toxin during the disease outbreak last summer.

Lambing has certainly been affected with an increasing number of ewes failing to produce lambs in many areas.

The most marked effect has been south of Auckland and through the Waikato and Bay of Plenty.

But senior advisory staff with the Ministry of Agriculture and Fisheries believe lambing percentages will be back only slightly on an average year, perhaps rather more on last year's record season.

While a few farmers in the worst eczema spots may have a substantial reduction in lambing percentage, the ministry says overall the effect has been far less drastic than was expected.

In Northland the lambing season is generally thought to have been no worse than average.

That is not to say that some farmers have had much more trouble from the disease than others. There have been isolated reports of farmers having several hundred animals succumb during the winter, having been weakened by the disease.

But there is also a belief that the livers in many animals have regenerated better than expected possibly because few of them have suffered eczema damage to any great extent in previous years.

The comparative lull in facial eczema outbreaks for a number of years before last summer is said to have meant unpleasant surprises for sheep men and dairy farmers in different ways.

Last summer sheep farmers found the eczema spores turning up in dangerous concentrations on areas of their farms which had been relatively safe in previous outbreaks.

Many of the dairy men caught are thought to have been sharemilkers without a memory of a previous outbreak on the property they are now farming.

About one-quarter of dairy farms in South Auckland and the Waikato are said to be worked by sharemilkers.

This area suffered worse from the outbreak than Northland, as drier conditions meant less feed and animals eating down into the main spore concentrations lower in the pasture.

CSO: 5400/9066

**FISH OFF WEST COAST POISONED BY UNKNOWN SOURCE**

Stockholm DAGENS NYHETER in Swedish 3 Oct 81 p 23

[Article by Peter Sandberg]

[Text] Goteborg, 2 Oct--Dead fish from Gullholmen up to Stromstad along the west coast. Trawlers picking up dead garpike in their nets far out to sea. Three hours off the Vader Islands, a brown sea of algae.

Mussel harvesting along the coast has been halted. Musselina, Inc. of Bovallstrand will be laying off five people next week.

On Monday scientists from the Kristineberg marine biological station went out to collect samples.

"There are a lot of dead fish and other dead animal life on the bottom. Some animals are obviously sick while others are unaffected. Clearly the damage at sea is worse than one can see on the surface," said Tomas Lundalv, Kristineberg research scientist.

The tests on the samples had not been completed by Friday afternoon but those that had been done did not indicate lack of oxygen.

The conclusion from this would be that the fish were harmed by poisons released by algae.

Researchers at the Tjarno laboratory found a thick "algae soup" down to a depth of 30 meters on Friday, which is unusual.

**Depth Visibility 2-3 Meters**

"The depth visibility was no more than 2-3 meters. Ordinarily it would be at least 10 meters. The algae is so thick that when we try to strain it out the strainer clogs up and the water can't pass through. We have not been able to analyze the precise composition of the algae mass, but we know it contains a lot of Gyrodinium aureole, an algae that has been linked to fish kills in Norway," said Bertil Rex of Tjarno.

According to the latest research material, some of it not yet published, these algae are not poisonous to mussels or people. They do attack fish gills. That is probably what is killing the fish along the coast.

In Norway the situation is even worse. In Oslofjord many fish have died and along the entire southern coast of Norway thousands of tons of rainbow salmon were stricken during spawning.

They have also had problems with fish hatches along the Bohus coast but not to the same extent as in Norway.

Harvesting and processing of mussels and oysters have been halted all along the coast. For Musselina, Inc. of Bovallstrand this means that five people will be laid off starting Monday.

#### Two-Week Halt

"We figure we'll have to stop for a week or two before it's quite safe again," said Andrej Brud of Musselina.

Mussel producers are solidly behind this step, however. It is better to stop harvesting than risk anyone's health.

"I hope this will sound the alarm so we are granted permission to make tests regularly."

On Friday signs were found that the algae growth was declining and that the mass of algae was headed away from the coasts. But these changes occur very gradually in the prevailing weather conditions.

6578

CSO: 5400/2010

## FIRST OUTBREAK OF AUJESKY DISEASE IN VIETNAM REPORTED

Hanoi KHOA HOC VA KY THUAT NONG NGHIEP in Vietnamese No 2, Feb 81 pp 105, 107

[Article by Nguyen Dang Nhuong and Nguyen Huy Tan, Central Trung Bo Animal Epidemiologic Veterinary Station: "Outbreak of Aujeszky Disease at Dai Phuoc Pig Farm (Dia Loc, Quang Nam-Da Nang)"]

[Excerpts] Evolution of the Epidemic--The pig farm of Dai Phuoc 1 Cooperative (in the village of Dai Phuoc, district of Dai Loc, province of Quang Nam-Da Nang) was set up at the end of 1978 with an initial herd of 32 reserve-herd sows and two breeding hogs brought in from Dong Nai and Hanoi. By the end of 1979, the herd gave birth to the first litters and grew normally. On September 8, 1980, however, a sow experienced a second month-miscarriage.

On September 9, 1980, a number of little pigs developed onset of illness with nervous system disorders, convulsions and high fever. This phenomenon appeared in three herds of suckling pigs under 20 days old. The above symptoms persisted until September 19, 1980, when all suckling pigs died. The mortality rate of these diseased little pigs was 100 percent. Treatment of diseased little pigs with antibiotics, tonics and anti-convulsive drugs was not successful.

Discussion and Suggestions--Aujeszky disease was discovered for the first time in the province of Quang Nam-Da Nang in particular and the provinces of Central Trung Bo in general. The disease caused great damage, especially to herds of little pigs, and threatened to destroy many breeding hog installations in the region. But in our country there now are neither vaccines to prevent Aujeszky disease, nor special drugs to treat it. Since Aujeszky disease has never occurred in our country before, our veterinary law has not provided for measures to handle animal husbandry installations affected by that disease. On these grounds, we suggest that:

1. Measures designed to address and interfere whenever Aujeszky disease breaks out be added to the veterinary law of the Socialist Republic of Vietnam, and
2. The Veterinary Institute conduct early research into a vaccine to prevent Aujeszky disease and promptly put it into production.

(Paper received on 28 October 1980)

9213

CSO: 5400/4512

# U.S. VACCINE TO WIPE OUT NATIONAL INCIDENCE OF FOOT-AND-MOUTH DISEASE

Lusaka TIMES OF ZAMBIA in English 21 Oct 81 p 2

[Text]

A MEAT boom is expected in the country after the discovery of a wonder vaccine by the Americans which will completely wipe out the foot-and-mouth disease.

Biochemists at the United States Department of Agriculture have made a scientific breakthrough which is expected to increase beef production not only in Zambia but throughout the world.

According to the latest edition of "Impact" magazine, released by the American embassy in Lusaka recently, through a medium of genetic engineering called gene-splicing, the biochemists have produced a vaccine which may lead to the elimination of all types of foot-and-mouth disease.

## To save

The report says that this contagious disease affects about 30 species of animals worldwide and is sometimes fatal to animals such as cattle, sheep and pigs.

The new vaccine is expected to save thousands of Kwacha and increase meat output in Zambia.

There is no foot-and-mouth disease in the United States since the government there prohibits meat imports from countries where it exists.

Unlike its predecessors which are made out of whole dead viruses, the new vaccine comprises a single protein called VP3 taken from the surface of the virus and is the element that activates the disease-fighting system of the animal.

Although the new vaccine protects against only one strain of foot-and-mouth disease, it can serve as the prototype for inoculations against others.

Zambia has been plagued by the foot-and-mouth disease for a long time and it has adversely contributed to the low meat output.

The Cold Storage Board of Zambia has had to stop buying cattle from the Southern Province for a long period because of outbreaks of the disease.

In Livingstone and Kalomo, there has occasionally been restrictions on cattle and other livestock movements because of the disease.

The outbreak of the disease in the past had even caused the two areas to stop organising district agricultural shows for fear that livestock from there would spread the disease to others.

## BRIEFS

**PARVO-VIRUS**--Parvo-virus among dogs in the Salisbury area is on the increase, a spokesman for the Zimbabwe Veterinary Association, Dr Bruce Fivaz, said yesterday. Dr Fivaz said about 20 percent of the hospitalised dogs died. Appealing to the public to have dogs vaccinated against the disease, Dr Fivaz said the vaccination of dogs last year gave immunity for only 12 months. [Text] [Salisbury THE HERALD in English 7 Oct 81 p 3]

**ANTHRAX HITS DISTRICTS**--Cattle in the Wedza and Chihota districts are being vaccinated against anthrax following an outbreak of the disease which has already hospitalised two people. Following reports of cattle deaths, a team from the Marandellas veterinary department vaccinated 59 939 animals in the Wedza, Chihota, Seke, Swoswe and Mude areas. Two people who had contracted anthrax as a result of eating infected meat were being treated, said an official. The veterinary team recently undertook a mass vaccination campaign against rabies in the same area. [Text] [Salisbury THE HERALD in English 19 Oct 81 p 3]

**RABIES HALTED**--The successful completion of an intensive six-month long anti-rabies and anthrax campaign in Victoria Province was announced last week by the acting senior animal health inspector for the area, Mr David Marillier. The campaign was launched after a widespread outbreak of the diseases which claimed the lives of several people and a number of animals. Mr Marillier said the campaign was run by about 20 health inspectors and orderlies at a cost to the Government of \$7,000. A big factor in the success of the operation had been warning animal owners of the hazards of the diseases ahead of visits by veterinary teams carrying out inoculations, he said. As a result there had been an excellent turnout of cattle as well as pets. The campaign started in Serima district, 80km north of Fort Victoria, and ended at Ndanga, 40km southeast of the town. "Now we're hoping for a breather although we will continue to be on guard," said Mr Marillier. [Text] [Salisbury THE HERALD in English 11 Oct 81 p 4]

**DISEASE TREATY**--Botswana's cattle-producers have called on their government to establish a livestock disease control treaty with Zimbabwe. Producers in the Tswapong area have also appealed for a strengthening of measures to prevent further outbreaks of foot-and-mouth in the area, according to a report in the Daily News of Botswana. Replying to the producers the Botswana Minister of Agriculture, Mr Washington Meswele, said a factory producing 12 million doses of foot-and-mouth vaccine a year would be opened in Gaborone at the end of this month. He told them that the vaccine factory, the largest in Africa, would export the vaccine mainly to neighbouring African states. In 1980, Zimbabwe took 2 048 700 doses of the Botswana vaccine for its cattle. This year, its order for the first six months was just about double that figure. [Text] [Salisbury THE HERALD in English 14 Oct 81 p 3]

# WA SPENDS MILLIONS ANNUALLY IN WAR ON INSECT, MITE PESTS

Perth THE WEST AUSTRALIAN in English 21 Sep 81 p 34

[Article by Michael Zekulich]

[Text]

**WA's agricultural industry loses many millions of dollars a year because of insect and mite pests.**

The sheep blowfly, for example, causes losses estimated at \$75 million a year in Australia—\$15 million in WA.

It remains the single most important problem facing the Australian sheep industry.

The overall agricultural losses continue in spite of efforts to control them.

But, without the control measures, some agricultural industries could not exist today in their present form, according to the Director of Agriculture, Mr E. N. Fitzpatrick.

The department has published a comprehensive report on the "bug war" in the latest issue of the Journal of Agriculture.

It is the first time that this has been done as a single reference publication.

The extensive range of subjects covered include the attack on fruit fly, controlling grasshoppers, managing pests in apple orchards, controlling cotton pests with egg parasites, tackling the lucerne flea and red-legged earth mite and integrating in-

sect control for Ord soya bean production.

## COST

In the foreword of the report, Mr Fitzpatrick said that it cost more than \$6 million a year to control insect and mite pests with chemicals. This expenditure was well justified in terms of animal and crop protection.

Biological control, using natural predators, was just as important, though the work was expensive and progress would depend on funding. At present, insufficient money was being provided on a State or Australian basis.

Mr Fitzpatrick said that, as research work progressed, it became evident that the potential for biological control was far greater than many had imagined.

But it usually required integration with chemicals and other techniques.

"Pesticides will continue to be essential for WA agriculture," he said.

Biological control goes back to before the turn of the century. Then from 1901 to 1910, George Compere, a French Canadian, was contracted to the WA Government and the Californian State Government to travel the world to collect parasites and predators, mainly of horticultural pests.

His journeys took him from China to Brazil, from the Mediterranean to South Africa and the Pacific.

He introduced many unknown "attackers" into WA.

Recently a parasite "hitch-hiker" wasp, *Tele-nomus rowani* has been introduced in the fight to control the white rice stem-borer moth, *Try-oryza innotata*.

The moth is a serious pest in the Ord rice crops.

But many people are worried that insects introduced to attack others will themselves become problems.

## BRIEFS

**COFFEE PLANTINGS DESTROYED**--In order to prevent the development of centers of infection for contagious diseases affecting coffee trees, the plant health authorities at the Ministry of Agriculture have ordered the total destruction of those plantings which have not received technical aid. This measure is included in an executive decree signed by President Rodrigo Carazo and the minister of agriculture, which states that the owners and tenants on any type of coffee plantation are under obligation to provide their plantings with technical aid to prevent the development of disease therein. If the plantings have to be destroyed, the plant health norms will be followed, taking as a basis the decision by experts that the coffee plantings are totally abandoned and some center of infection is to be found therein. [Text] [San Jose LA REPUBLICA in Spanish 24 Aug 81 p 2] 5157

**COFFEE RUST COMBATED**--The plant health department at the Ministry of Agriculture and Livestock has agreed to prohibit visits by tourists coming from countries affected by the coffee borer and rust to plantings of and processing facilities for this crop. This step was taken on the basis of the plant health law with a view to eliminating any possible risk of contamination. To this end, the office is prohibiting government institutions and private individuals from promoting or issuing invitations for visits from institutions or technicians of countries which have suffered from either of the two diseases mentioned. In this connection, the director of health, engineer Rodrigo Castro, said that extreme quarantine measures recently had to be taken in Penas Blancas because of the visit of 47 coffee growers from Guatemala. Engineer Castro said that he hopes that the public will excuse the inconvenience this measure may cause, bearing in mind the importance of keeping the country free of two of its greatest enemies, the borer and rust. [Text] [San Jose LA REPUBLICA in Spanish 29 Aug 81 4] 5157

**PROTECTION AGAINST SMUT**--The vice-minister of agriculture, engineer Willie Loria, has announced that the outbreak of sugarcane smut at the Taboga, El Viejo and Catsa plantations in Guanacaste will not cause any serious production problems for us, but he warned the producers to plant new sugarcane stands and to seek the advice of the Ministry of Agriculture technicians in this connection. Loria Martinez said that this is the only way of dealing with the spread of further outbreaks in the zone, which would threaten a part of production if they should occur. He added that the outbreak has not been of importance thus far because disease affects only very young plantings, and this has not been the case. However, it is necessary to substitute other more resistant varieties for the vulnerable ones in order to avoid future problems. This official added that the destruction of the plantings will not be undertaken because the best and cheapest technique in this case is replacing the plantings. However, he warned of the need to make a rapid change in the plantings where this is deemed necessary before the contagion spreads to there too. [Text] [San Jose LA REPUBLICA in Spanish 24 Aug p 2] 5157

## BRIEFS

**KILLER BEES**--Fourteen domestic animals--eight sheep and six goats--were stung to death when a swarm of bees invaded Avernorpeme, a town in the Volta Region. Four persons who were also seriously stung by the bees had to be given medical treatment. During the two-hour siege the town folks who had earlier gathered for their annual traditional cleanup broke up in confusion while the bees chased them in all directions. Bees are common in that area during this time of the year when they gather nectar for honey. A spokesman for the organizers of the cleanup exercise told newsmen that when the people assembled to receive the high priest Togbi Dzolishi and his retinue, the bees suddenly appeared, buzzed and stung. Togbi Dzolishi said: "It is wrong to attribute the attack to any evil omen since bees are common here during this season."--GNA [Text] [Accra DAILY GRAPHIC in English 2 Oct 81 p 1]

CSO: 5400/5634

## BRIEFS

INSECT PLAGUE--According to the monthly bulletin published by the department in charge of food security, the prospects for a good agricultural year continue to be satisfactory despite the fact that beginning in August, dry land cultures were the target of insect attacks. Since the beginning of August, large breeding areas of grasshoppers were found in the regions north of Bafata and Gabu and especially along the border with Senegal (Fadjongquito, Tendito, Sara-Bacar and Sonaco). Plants most affected in these areas were corn and sorghum. The incidence of grasshoppers was also noted in Bolama and insects sporadically attacked rice fields in certain islands in the Bijagos, a fact that was noticed as early as last July. In the third agricultural zone, particularly in Tombali, various insects attacked the rice fields. Among the insects that caused the most damage were the "*diopsi thoracica*," the "*sesamia* sp.," the "*maliarpha separatella*" and the "*diacrisia scortilla*." As a result, the operations of transplanting the rice seedlings were somewhat delayed since farmers had to resort to the use of pesticides provided by the department of rural development. [Excerpt] [Bissau NO PINTCHA in Portuguese 23 Sep 81 p 8]

CSO: 5400/5627

## MAURITIUS

### EFFORT TO STEM CANE DISEASE REPORTED

Port Louis THE NATION in French 25 Aug 81 pp 1,4

[Report: "The MSIRI Concerned by the Growth of Gummosis"]

[Text] The situation concerning the growth of gummosis is not considered alarming but remains a concern, J. Dupont de Rivaltz from St Antoine and Drs Ricaud and Autrey stated frankly to the press yesterday morning. The Sugar Industry Research Institute (MSIRI), therefore, would like to alert the growers through reports, regional conferences and a television talk. It has already issued some recommendations, the principal among which are the following:

- I. The variety M377/56 must not be replanted but eliminated quickly;
- II. The plants in the severely affected hotbeds must be pulled out immediately;
- III. Remnants of the M377/56 in newly planted fields must be eliminated (particularly in fields with M124/59, M574/62, M94/63 and M2173/63);
- IV. Knives, pruning bills and blades of harvesters must be disinfected;
- V. M124/59, M574/62, M1227/62 and M94/63 must not be planted until August 1982;
- VI. M93/48, M666/60 and M2173/63 must not be planted in the infected areas of M377/56 and in areas susceptible to the development of gummosis, such as mountain slopes.

#### Definite Indications

Recent studies of sugar cane fields in various parts of the island indicate that gummosis remains virulent. It is even affecting some varieties so far considered resistant. No less than 1,527 diseased areas have been identified in the 2,204 surveyed fields. Weather conditions somewhat favored the growth of this bacterial cane disease: in 1981 we had four cyclones: "Florine," "Heliette," "Johanne" and "Lisa," after five cyclones in 1980. The philosophy of the winds, therefore, contributed to the dissemination of this disease.

However, starting with last year the MSIRI has carried out several research projects, as follows: a. studies of new methods for testing the reaction of the various varieties and for identifying the new bacterial stems; b. therapeutic treatment of infected cuttings with aerated steam; c. serological studies in laboratories.

The studies are being continued and very interesting results have been obtained.

In the light of the studies, the conclusion of the MSIRI is that in M377/56 gummosis has reached the point of no return. This variety is acting as a dangerous source for dissemination and contamination of other varieties. Dissemination by air will be paralleled inevitably by dissemination with knives and bills.

It is equally the opinion of the MSIRI that varietal recommendations are no longer applicable and must be adjusted in accordance with the new data.

#### Possible Development

According to the MSIRI, the development of gummosis over the next few years will be determined largely by the existence of the M377/56.

Three situations are therefore possible:

1. Assuming that this variety is removed very slowly, it is likely that by 1985 the new varieties will be infected to the epidemic level;
2. A faster elimination of the variety will most likely reduce the contamination of the new varieties;
3. If the affected variety is removed wherever it is found, the contaminations of the new varieties will be negligible and, with the help of proper sanitation measures, the infection could be blocked.

The purpose of the MSIRI is to complete the elimination of the bacterial centers by 1983 so that the M377/56 may be reduced to a negligible surface by 1985.

#### Other Statements

The MSIRI has noted that the M93/48 had shown so far only medium-length streaks. This year very long streaks were noted in Medine, which entered the ochrea and, in some cases, the stems had developed a chlorosis typical of the systemic stage of the disease.

The symptoms displayed by the M442/51 are the following: long streaks, gummy sacs, stem deformation and cuts.

The M351/57 shows the symptoms of systematic infection.

The M124/59, which is still resistant, is showing a severe streaking, with long streaks penetrating the ochrea, cuts and abundant exudation.

The M574/62, M94/66 and M2173/63 have also been affected.

In the M124/59, M574/62, M1227/62 and M94/63, the presence of gum inside the stems was noted. Reaction to the disease was confirmed in the other varieties (M31/45, M13/46, M438/59, Triton S17, M356/53 and B51129).

M555/60 seems to behave like the M356/53. However, on two occasions in the eastern and northern parts of the island, it displayed very long streaks.

#### Warning

The MSIRI cannot possibly determine the extent to which gummosis has affected cane yields, for the weather factors are important. It insists, however, that gummosis is caused by a bacterium whose dissemination cannot be controlled and that it is a dynamic disease, for it exists in distinct stems with different virulence. Gummosis has caused severe problems in the past. Should tomorrow's circumstances become favorable for the development of the disease, the situation could worsen further and more severe control measures may have to be taken.

Therefore, the MSIRI asks that its recommendations be taken into consideration in order to reduce the rate of infection to an acceptable level within the shortest possible time.

5157

CSO: 5400/5604

## BRIEFS

**HAWKWEED CONTROL**--The key to low-cost control of Hieracium--known as hawkweed--is likely to be a combination of grassland improvement and seasonal grazing management, according to the annual report of the Department of Scientific and Industrial Research. Since the 1960s there has been extensive infestation of the South Island high country by the weed. Control by herbicides has been only moderately effective and high costs have precluded their extensive use. In a trial over five years, oversowing and topdressing reduced Hieracium from 50 percent to 16 percent of ground cover, with a corresponding increase in carrying capacity from one per hectare to about six. On poorer soils the results have been less successful, though a substantial increase in carrying capacity has been achieved. Though Hieracium may not be completely eliminated by improving the fertility and composition of a pasture, it will be reduced to a level where it is no longer the controlling agent of the management or economics of farming in such areas, the report states. [Text] [Christchurch THE PRESS in English 11 Sep 81 p 15]

**INFECTED FERTILIZER**--Christchurch, Sept 27 (PA)--A twitch-like weed which could have seriously affected New Zealand's grape crops has been found in a shipment of fertiliser from the United States. Bermuda grass was discovered in the fertiliser during a routine inspection of the holds of the ship, Star Capella, while it was berthed in Napier, the senior agricultural quarantine officer in Christchurch, Mr J Lawrence said. While the ship was berthed at Lyttelton from Thursday to Saturday stringent precautions were taken to ensure the weed did not spread to the land. Trucks with tarpaulins carried the infected fertiliser direct to the Ravensdown Fertiliser cooperative in Hornby. At the works the fertiliser was unloaded into a hopper where it was treated with sulphuric acid. This destroyed the growing Bermuda grass. Mr Lawrence said the weed was a host to virus disease. It affected grape crops. [Text] [Wellington THE EVENING POST in English 28 Sep 81 p 7]

CSO: 5400/9067

# HYLOBIUS BEETLE MOST DESTRUCTIVE FOREST PEST

Stockholm DAGENS NYHETER in Swedish 8 Oct 81 p 30

[Article by Thomas Michelsen]

[Text] Sweden's costliest insect chews up pine and spruce plants worth 300 million kronor a year. But it was man who spread the table for the hylobius beetle by clearing large areas.

The hylobius beetle may be Sweden's costliest insect. The last pest against which DDT was used--several years after DDT had become notorious and was banned for all other uses.

An insect that eats up young pines and spruces at a cost of millions each year. In appearance an insignificant brownish-black, somewhat speckled beetle about a centimeter in length with a head elongated into a proboscis or "snout."

The hylobius beetle has always existed in Swedish forests, spread evenly from south to north. It was modern forestry that turned the hylobius beetle into a dangerous pest.

Actually it was man who spread the table for the hylobius beetle. This happened in the early 1950's or in some parts of the country in the late 1940's when forestry went over to what is known as "regional clearing" or clean cutting, in everyday Swedish.

The hylobius beetle is fairly long-lived for an insect, living several years. It can also fly unusually long distances for a beetle, several miles. To survive as a species it needed both its long life and its extensive flying ability.

## Recently Downed Trees

The beetles depend on conifers that have died recently for reproduction. And trees and roots that have died recently are not that common in a natural forest. Or in the forests we had in Sweden before the 1950's. Therefore the hylobius beetle often had to fly long distances before sniffing out a suitable stump or root in which to lay its eggs.

The larvae live a long time, up to 2 or 3 years, in the dead stumps or roots. But when they crawl out on the ground as mature beetles they are hungry for conifer bark. They eat the bark of young seedlings as well as on the twigs and branches of full-grown trees.

Larger trees don't suffer much damage from having a little bark gnawed off by hylobius beetles. But the beetles can seriously damage or kill young trees.

Modern clean cutting suddenly provided the beetles with plenty of stumps. And close by new seedlings were served up for the beetles to eat. There the egg-laying beetles could feed between egg-laying and mating and there the newly-hatched young beetles could find food right away.

The next step in modern forest cultivation, stump removal, did not prove to be the hoped-for radical method of combatting the hylobius beetle. And the beetles can detect roots under the ground by smell and burrow down and lay their eggs there.

In addition the newly-cut stumps are usually allowed to lie in the clearing to dry before they are taken to factories. During this time the beetle larvae in the stumps often have time to reach maturity and fly out.

#### DDT Solution

Up to 1975 DDT was used in forestry to combat the hylobius beetle. Pine and spruce seedlings were dipped in DDT before they were set out in the clearings.

That is a method many people in the forestry branch would like to return to.

After the DDT ban the Forestry Agency made a study of the hylobius beetle which is estimated to cause forestry losses of 1.5 billion kronor a year. It was the abandoned underbrush the beetles ate. Lumbering operations would have to be reduced by 1.8 million cubic meters a year from [figure illegible] million cubic meters.

This would cost 6000 jobs in the forestry branch.

The figures in the study have been criticized. And since then lumbering in this country has declined to around 60 million cubic meters for reasons entirely unrelated to the hylobius beetle.

#### One Seedling in Three

But new estimates suggest that the beetles cause damage amounting to 200-300 million a year today. The damage varies sharply in different parts of the country. Norrland has been relatively spared. It is worst in southeastern Sweden. There the hylobius beetle kills an average of 30 percent of the seedlings in new plantations during the first year.

That is, if nothing is done to prevent the damage.

But actually there are a number of methods that can be used to combat the hylobius beetle although not all of them are used in practice.

As we mentioned the beetles can fly long distances in search of fresh stumps. But when it eats it comes down on the ground. There it can be checked by a new kind of plastic collar, a cone pressed around the base of the seedling when it is set out.

A frequently-recommended way of combatting beetle damage is soil preparation. The top layer of dirt is removed in strips or patches where the plants are to be set out. The beetles don't usually venture onto the bare unplanted ground around the young trees. They have "agoraphobia" and don't like the sharp direct light.

Another method is to leave the clearing unplanted for several years so that the stumps are no longer as temptingly fresh and attractive to the hylobius beetle. This is called fallow cultivation. But the big drawback with this method is that during the waiting period other competitive vegetation grows up, especially in fertile clearings. This means the seedlings won't get off to such a good start. In addition several years of growth are lost in the clearing.

Perhaps the best way of eliminating beetle damage is to sow seeds instead of setting out plants in the new forest. In the 1950's 20 percent of cultivated forest areas were still being sown, now this applies to only 1 or 2 percent. Even if one allows the forest to sow itself, by leaving cone-bearing trees behind in the clearing, not many beetles appear.

Another way of reducing the hylobius beetle risk is to set out more seedlings when planting is done. If some are damaged the total effect is not as bad.

Chemical pesticides that replaced DDT have also been used against the hylobius beetle. But those who plant the forests often dislike handling plants dipped in insecticides.

Research is being conducted in Umea on a kind of biological method of fighting the beetles--they are setting out a small grub, a nematode, that attacks the beetle. At the agricultural university's entomological institution in Ultuna researchers have less faith in this method. Instead they are studying scents that attract the beetles.

In the long run this research could produce a method of combatting the beetles that resembles the scent traps used to trap bark borers. But now this research is just getting off the ground, according to Goran Nordlander who is heading the project in Ultuna.

6578

CSO: 3400/20\*0

## BRIEFS

GRAIN BORER DAMAGE--A pest which attacks stored maize and was thought to be confined to the American continent is now in Africa and British experts have warned Zambia that it might spread to this country. Experts from Britain's Tropical Products Institute (TPI) have already submitted recommendations on the control of the pest--*prostephanus truncatus*--to authorities at Tabora in Tanzania. A report from the London Press Service released through the British high commission in Lusaka says that in Tanzania the TPI staff found that the pest, also called the greater grain borer, was found to have damaged more than 30 percent of maize cobs after five months storage. The maize were too badly damaged to be used for food and other stored products, including cassava and groundnuts, can also be affected. [Text] [Lusaka TIMES OF ZAMBIA in English 21 Oct 81 p 2]

CSO: 5400/5635

## FINNS FIND MORE COLORADO BEETLES IN RETURNED RAIL CARS

Helsinki HELSINGIN SANOMAT in Finnish 26 Sep p 9

[Text] Some 20 live colorado beetles have been found in Soviet rail cars at the Kauhajoki station.

The rail cars came empty to Kauhajoki, and they were going to be loaded with furniture. The loaders were cleaning the dirt from the cars that previously had carried a load of potatoes. Some 20 live, about 7 to 20 millimeters long yellow beetles with black stripes were found in one car, and a few dead beetles in the other.

The cars were first swept and cleaned and then the rubbish was burned with oil. Both the car and the surrounding area were treated with 200°C steam.

### A Small Band Capable of Devastating a Large Potato Field

The colorado beetle is about 7 to 12 millimeters long, and it lays its orange-colored eggs on the back side of the potato leaves. The beetles are voracious: one band will quickly devour even a large potato field of all the leaves.

The colorado beetle came to Europe from North America in boats. It first infested France. Since 1922, it has been as steady pest in Europe. It now has spread into all Central European countries and the Soviet Union.

The Nordic countries of Finland, Sweden and Norway have been relatively spared these beetles.

In Finland, the first colorado beetles were detected in 1973. They came into the country in a shipment of Bulgarian spring potatoes. Since then, clusters of them have been found a few times in Soviet and Polish imports of potatoes.

### Even Winds Bring Beetles

The beetles can be carried by winds. A few years ago, colorado beetles were brought in winds to southern Sweden. The Southern Ostrobothnia Agricultural Center has stated that it is possible that since the colorado beetle has spread all the way to Estonia, the theoretical danger exists that it might come to Finland by winds.

The Agricultural Research Center in Tikkurila has studied the ability of the colorado beetle to withstand the rough Finnish winter. Most commonly, the beetles die during the winter. However, a few individuals were able to live through the winter in compact layers of sandy clay.

#### Loaders Given Directions about Pests

About a month ago, all loading stations of the State Railways in Ostrobothnia were delivered direction brochures which included detailed pictures of all pests the loaders have to watch for when cleaning the rail cars.

The brochure also gives detailed extermination procedures and directives on where to go to for help in eradicating pests found.

9571

CSO: 5400/2003

## EXTERMINATE RICE PESTS IN HA NAM NINH, RODENTS IN HAIPHONG

Hanoi NHAN DAN in Vietnamese 17 Sep 81 p 1

[Article: "Exterminate Pests, Conserve Water and Prevent Drought for 10th-Month Rice"]

[Text] Ha Nam Ninh Province still has nearly 50,000 hectares of rice (more than one-third of the 10th-month rice area) damaged by pests and brown leafhoppers—including 20,000 hectares of 10th-month rice of NN-22 strain infested with leaf rollers. Following inspection and assessment of the age of harmful insects, the cooperatives have taken concrete extermination measures. In early transplanted areas where rice was in boot, making it impossible to use insecticides, the cooperatives have mobilized families of all members to go to the fields, using their hands to capture insects or prune leaf stubs containing nests of leaf rollers. In other areas where rice buds were being split, the cooperatives guided members to learn the highly effective experiences of Hai Hau District in using bamboo stumps to sweep lightly over riceplant tops so as to break up leaf roller nests, preparing the way for insecticidal spraying by plant protection units. In the key rice producing districts of Hai Hau, Xuan Thuy, Nam Ninh, Nghia Hung and Kim Son, where rice is of good quality, the area infested with leaf rollers is larger, with 500 to 800 insects per square meter. There, the cooperatives have distributed insecticides to members' families with instructions to mix them with powdered soil, to apply the mixture to the fields during the early morning hours when riceplant leaves are still wet with dew, and to take the precaution of wearing raincoats and masks so as to avoid noxious contamination.

Areas infested with brown leafhoppers have shrunk following the concentrated campaign to use all forms of extermination; but recently many pockets of pests have reappeared. Some areas in the cooperatives of Truc Dai, Truc Cuong, Truc Hung, Truc Thai (Hai Hau), Nam Binh, Nam Minh (Nam Ninh), and Nghia Dong (Nghia Hung) were partly infested with pests. The district has supplied these cooperatives with Bassa, a special insecticide, to exterminate pests on the spot and to prevent them from expanding to other rice areas.

The cooperatives have also taken care to conserve enough water in prevention against an end-of-season drought, enabling rice to boot and head. More than 30,000 hectares of rice transplanted in low-lying areas need water; irrigation corporations in each

area have pumped water into irrigation canals to permit cooperative members to install connections for bailing out water to the fields, thus helping riceplants to boot and head and contributing to exterminating pests as well.

Nearly 30 percent of the 10th-month rice area in Haiphong is being affected by brown leafhoppers. A number of early ripened ricefields are also being damaged by rodents.

The Haiphong Municipal VCP Committee and People's Committee have firmly guided the districts to carry out a number of measures designed to save the 10th-month rice. Some 178 tons of insecticide and many spraying tanks were urgently sent into the cooperatives. Chemical fertilizer was also sent--and in quantities larger than those during previous seasons. A number of college students sent down by the Ministry of Agriculture are earnestly helping cooperatives and members spray insecticide and exterminate pests. In addition to inspecting the fields and inundating them with water to kill insect eggs, cooperative members in Do Son District have also carried out related measures to exterminate insect eggs, such as applying sand mixed with insecticide. In a number of cooperatives affected by rodents such as Dong Phuong, Dia Dong and Hoang Nghia, members placed shells of *Grapsus nankin* previously imbued with raticide in spots where rodents used to gnaw riceplants. In just one week, cooperatives in Do Son District have killed tens of thousands of rats. The Youth Union in Vinh Bao District has mobilized its members to act as an assault force in exterminating rodents and pests so as to save the 10th-month rice.

9213

CSO: 5400/4514

ZAIRE

BRIEFS

ZAIRE'S PESTICIDE NEEDS--A study by the CGEA [General Atomic Energy Commission] estimates Zaire's monthly pesticide requirements at 6,000 tons. This need can be met either through local production or through imports. The study defines pesticides as substances or preparations which increase agricultural yields and protect crops against their enemies. They are used against the animal and vegetable parasites which attack crops. According to the study, the Kivu and Kinshasa regions, because of their potential for industrial crops, constitute a favorable environment for the building of pesticide plants. The production of these substances, the document says, requires substantial raw materials locally available and adequate financial resources. There are three kinds of pesticides: insecticides (which kill insects), fungicides (substances which destroy parasitic fungus growth), and herbicides (products which destroy weeds). [Text] [Kinshasa ELIMA in French 29-30 Aug 81 p 3] 5157

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